

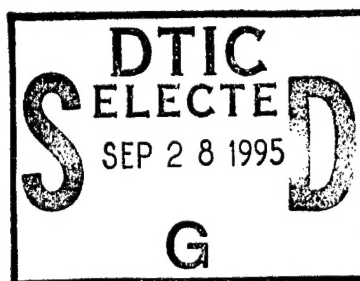
Battalion-Battle Staff Training System

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13. ABSTRACT (Maximum 200 words): This report documents the design and development of 13 courses of instruction for the Battalion-Battle Staff Training system (BN-BSTS). BSTS is a set of training materials for battalion-level staff officers, a mixture of text and CD-ROM computer-based instruction (CBI). Designed for stand alone or local area network linked training systems, the BN-BSTS was developed for use by the U.S. Army National Guard (ARNG). Part of the training challenge for ARNG combat arms staff members is due to conflicts with other duties. To help alleviate this problem, distributed, multimedia (paper-based and computer based), individualized instruction for battalion staff personnel was developed. The resulting BSTS project provides a prototype staff officer training program with courses which cover individual battalion staff functional areas and those individual tasks required to prepare the battle staff members for collective battle staff tasks. This project, sponsored under the Advanced Research Projects Agency (ARPA) program umbrella of Simulation in Training for Advanced Readiness (SIMITAR), is coordinated with two other programs: Simulation-Based Multiechelon Training for Armor Units (SIMUTA) and Combat Service Support (CSS) Training System Development for the National Guard.					
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BATTALION-BATTLE STAFF TRAINING SYSTEM

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Battalion-Battle Staff Training System

Introduction

The purpose of this report is to document the design and development of thirteen courses of instruction delivered for the Battalion-Battle Staff Training System (BN-BSTS). BN-BSTS is a set of training materials for battalion level staff officers, a mixture of text and computer based instruction (CBI). The package includes CD-ROM based programs, with instructional and training management systems. Designed for stand alone or local area network linked training systems, the BN-BSTS was developed for use by the U.S. Army National Guard (ARNG). The work was performed by BDM, Federal, Inc., under contract to the Army Research Institute (ARI) and the Advanced Research Projects Agency (ARPA) (MDA903-92-D-0075, DO#0011). BDM provided management, authoring, and military subject matter expertise. The work was performed under the direction of the ARI Infantry Forces Research Unit (IFRU) at Fort Benning, Georgia from May 1993 through January 1995.

Background

The ARPA Land Systems Office and the ARNG Advanced Distributed Simulation Program have focused on the unique training needs of the Reserve Components. Part of the training challenge for ARNG combat arms staff members is due to conflicts with other required multiple unit training assembly (MUTA) battalion duties. To help alleviate this problem, the ARPA, ARNG, and ARI initiated the development of distributed, multi-media (paper-based and computer-based) individualized instruction for battalion staff personnel. The resulting BSTS project provides a prototype training program with courses which cover individual battalion staff functional areas and those individual tasks required to prepare the battle staff members for collective battle staff tasks.

This project, sponsored under the ARPA program umbrella of Simulation in Training for Advanced Readiness (SIMITAR), is coordinated with two other programs: Simulation-Based Multiechelon Training for Armor Units (SIMUTA) and Combat Service Support (CSS) Training System Development for the National Guard. BN-BSTS focuses on the development of a prototype staff officer training program available to ARNG officers for completion at home or in the armory. This program applies innovative research, application, and technologies of instructional design, computer science, and multi-media training strategies to enhance learning. The BN-BSTS will be distributed to two ARNG test brigades selected for participation in a 1996-1997 evaluation.

Prior Research

Battle staff training. The need for formal battle staff training, especially for units conducting premobilization training or training for a rotation to a Combat Training Center (CTC) became evident from ARI's research on home station determinants of effective unit performance at the CTCs (see Holz, Hiller & McFann, 1994). The study of units at the National Training Center (NTC) and the Joint Readiness Training Center (JRTC) showed that special training focused on the battle staff (especially orders drills) led to better unit performance.

Research on light infantry units found that staff officer training in the appropriate functional area was not provided prior to assignment to maneuver battalion or brigade staff (Thompson, Thompson, Pleban & Valentine, 1991). The only officer training available was supervised by the commander, on-the-job. As a result, the battle staff did not recognize deficiencies in synchronization of critical command and staff technical and tactical activities until after a rotation was completed.

The battle staff competency issue has been addressed and research has been conducted on the problem of training and synchronization of battle staffs. An interim solution, The Commander's Battle Staff Handbook (Pleban, Thompson, & Valentine, 1993) was developed, and has been distributed to both Active Component (AC) and Reserve Component (RC) personnel. The handbook provides descriptions of individual battle staff duties, responsibilities, and references for key staff/slice officers and the command sergeant major. It was developed from staff material provided by TRADOC branch schools, interviews with subject matter experts, and from the assessment of unit performance by observers at the CTCs. The Commander's Battle Staff Handbook was the primary base document for the BN-BSTS courses.

Battle Staff Integration. BN-BSTS also incorporated research on the concept of organizational competence and seven organizational processes "required by the organizational system (the battle staff) for effective accomplishment of missions" (Olmstead, 1992, p. V-1). Olmstead's tenets became training objectives in the common core course of instruction and were integrated into the remaining courses. This instruction will ensure that individual officers and the entire battle staff possess the requisite functional and team competency skills to fully synchronize individual efforts into the collective staff effort. This process will lead to optimal performance during the planning, preparation and, to a lesser extent, execution phases of the given mission or individual/collective tasks.

Asynchronous training. The BN-BSTS incorporated aspects of SMART (System for Managing Asynchronous Remote Training) which demonstrated a methodology for the delivery of individualized instruction to ARNG officers widely distributed throughout the country (Hahn, et al., 1990, 1991). SMART allowed students to interact on their own time, asynchronously, with fellow students and instructors via telephone links, similar to electronic bulletin boards.

Method

Text based materials and storyboards were developed at Fort Benning, GA. BDM's Albuquerque, NM, personnel provided assistance with CBI, the training management system and the performance measurement and feedback system.

The primary developers of the instructional materials for the BN-BSTS effort came from a team of subject matter experts (SMEs) with extensive experience serving on AC and RC battalion battle staffs, and in combat and at the CTCs. They determined the individual training objectives for each course, using as reference the Commander's Battle Staff Handbook and doctrinal materials. They surveyed existing formal courses, Army doctrinal publications (Field Manuals, Mission Training Plans, Technical Manuals, Programs of Instruction, etc.), and related materials. They used information from the Center for Army Lessons Learned (CALL) extracts, trends, reports, data, and observations from past and on-going combat operations, and CTC After Action Reviews (AARs).

Programs of instruction were written, following accepted instructional design models, plus development of new models for the design, development and delivery of text-based and CBI. Included were state-of-the-art hardware and software from the computer industry, CBI software development firms, and the entertainment industry. Instructional development used story boards.

Presentation media considered both the cost and training effectiveness of existing materials and materials to be designed. Maintaining student interest was essential because students would be required to learn on their own. CBI presentation supplemented with text-based and companion doctrinal publications provided an inherently more interesting instructional program than existing text-based materials alone.

The CBI format was designed to implement the diagnostic, assessment, and performance measurement component of the system as well as provide the primary instructional medium to provide the battle staff officer with exercises and tutorials to apply the instruction presented.

Instructional Overview

CBI is the foundation for this training system. Staff officers receive their CBI materials through CD ROM in conjunction with the accompanying text based materials. Technical specifications for the student computer stations and the manager station are provided at Appendix A.

The individual has access, if the unit chooses, to other staff members through the use of either an asynchronous electronic bulletin board or a synchronous "chat" capability. They can conduct synchronous or asynchronous outside class meetings to help one another with problems and discuss course content. These communication methods can prepare battle staff officers for collective tasks. (Two Shiva net modems provide the synchronous "chat" capability for the system.)

The thirteen courses of instruction are composed of subjects; subjects are groups of lessons, and lessons are composed of topics that cover a major learning objective (see Figure 1, Model Course Map).

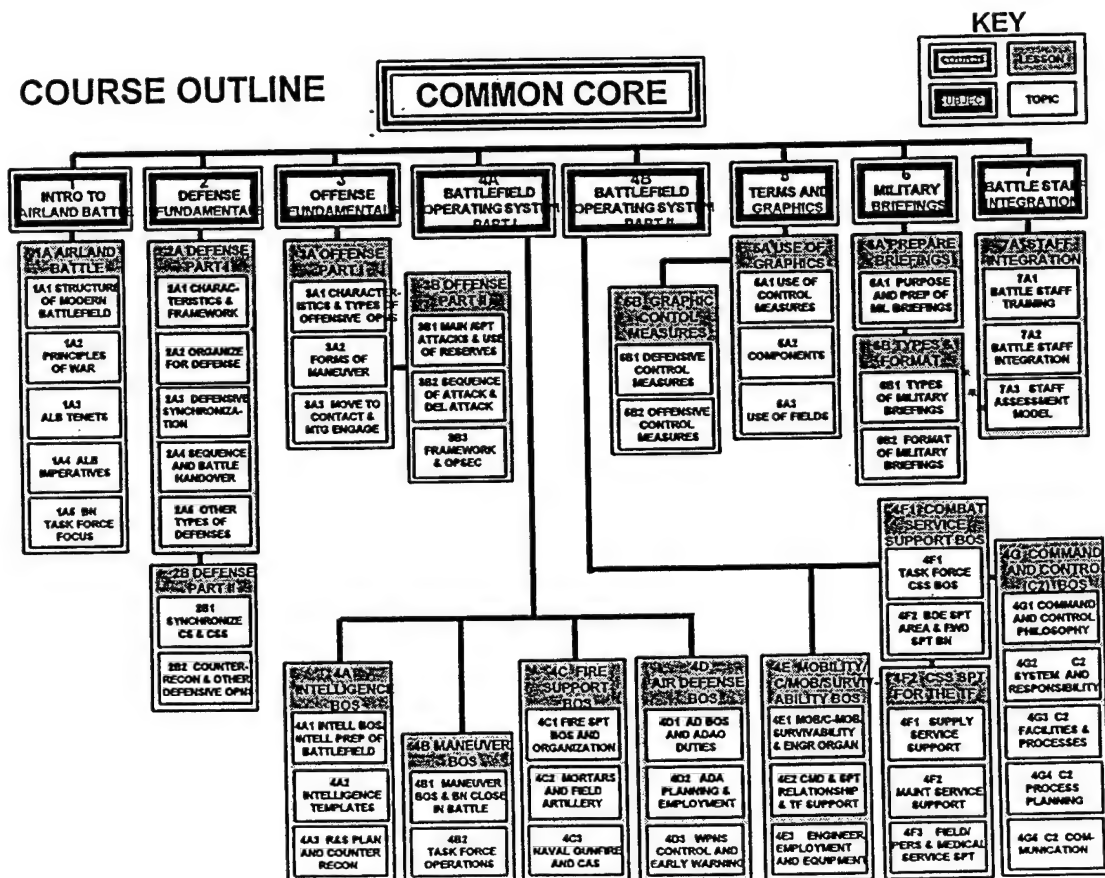


Figure 1. Model course map.

Lessons take one or two hours to complete. The Training Management System (TMS) allows the commander, executive officer, training officer, or other designated individual to schedule courses, monitor the progress of the individual battle staff officers, and manage the authoring of revisions or future courses of instruction. (Appendix B provides background information on the TMS.)

CBI development used commercial, off-the-shelf, software that met the criteria for selection of CBI authoring software. Additional tools and templates were also developed for use in the BN-BSTS. The templates are included in the standards of instruction emplaced for the program. Standards include learning strategies for mastery of skills and knowledge, techniques for question and answer sessions, testing criteria, screen design, navigation through the courses of instruction, helps, job aids, and screen layout. (Appendix C contains information on the Instructional Standards.)

Instructional Concept

The multi-media CBI and text materials included graphics, still photographs, audio, text, and full motion video with audio. Specific application of media was based on selection of the most effective media for teaching the learning objectives. CBI was used where it is a clearly superior strategy of instructional delivery; especially, to present high order cognitive tasks, complex tasks that require coordination or synchronization with other tasks, and practical application of the skill or knowledge being presented. All diagnostics, assessment, measurement and feedback were included in CBI to provide student progress and status reports to the trainer. The instruction focuses on mastery of basic skills and knowledge followed by application of critical tasks to ensure the student can apply the task in a realistic environment.

While the instructional concept places the student in control of the pace and sequence of instruction, feedback provided to the student informs him or her whether or not the task has been mastered, thereby enabling him or her to receive remedial training if the chain of command so chooses.

Instructional Content

Courses of instruction were designed for the battalion battle staff, which consists of the commander's primary and special staff as well as the Combat Support (CS) and Combat Service Support (CSS) slices that habitually work with the staff. As a result of the program front-end analysis (FEA), three additional courses of instruction were added to ensure the delivery of a complete program of instruction for the battle staff. A needs assessment, conducted to determine the tasks to

be trained for the selected battle staff officers, was conducted for each course and published in the form of the battalion battle staff task list.

One SME was assigned primary responsibility for the design and development of each course of instruction. The SME, in conjunction with an instructional designer, applied a functional job analysis to develop the training objectives and corresponding performance measures to be trained. (Figure 2 shows this process.)

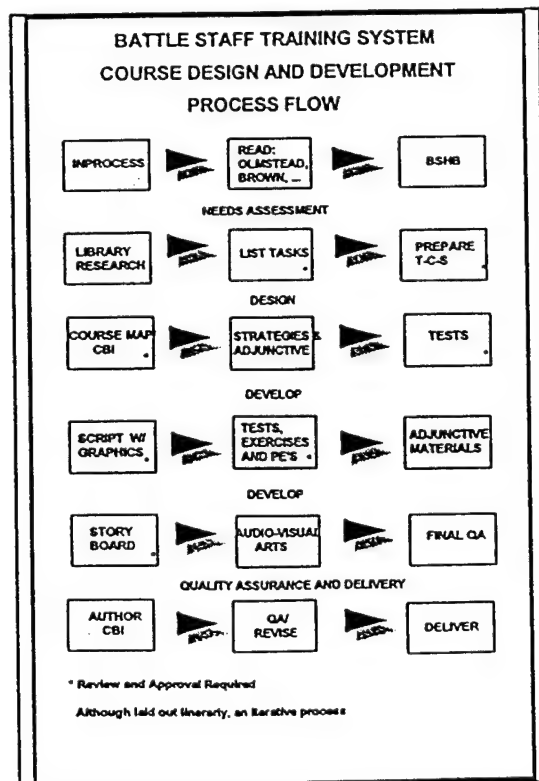


Figure 2. Course design and development process flow.

SMEs surveyed and documented all relevant doctrinal and training literature, lessons learned, and applicable Army formal courses and instructional materials. Following the literature review, the SME and instructional designer applied the design/development model, culminating in a final version of the text-based instruction with adjunctive materials and tests.

Quality assurance of materials was accomplished both by peers, for content, and an instructional designer for application of sound instructional principles.

Each of the courses has a listing of associated, professional reference materials needed to complete the course of instruction. Thus, at the completion of the course the staff officer will be technically prepared to perform the required staff function, and will also know to refer, when required, to doctrinal publications for specific application of problem solving skills within the functional area, and as part of the battle staff.

The most complex cognitive tasks, and those that were determined to require integration and synchronization with other tasks were designated for application of CBI. Storyboards, with attached media, were provided to the CBI authors for development into CBI with specified training application, sequence, branching, and selected media.

Training Management

Management of the training applied a modification of the Training Management System (TMS) developed for use with the BN-BSTS and CSS programs and designed specifically to enhance the instructor-independent nature of the distance learning used in this program (see Appendix B). The TMS is an enabling environment for multi-media computer-based training development and delivery. The TMS integrates a system that allows trainers and administrators to schedule students for courses, monitor student progress, receive progress reports, print results, analyze measurement data for course enhancement, and modify courseware while students are training on a previous version of the course.

The *Windows for Workgroups* (™) environment provides a familiar look and feel across the training media. A model of the hardware architecture is at Figure 3. The TMS uses Microsoft's *Access* (™) database to manage the student's progression through the course of instruction. Course templates standardize the recording of student progress within lessons for posting to the data-base. This allows the commander, executive officer, training NCO or other designated individual to track the overall progress of the staff.

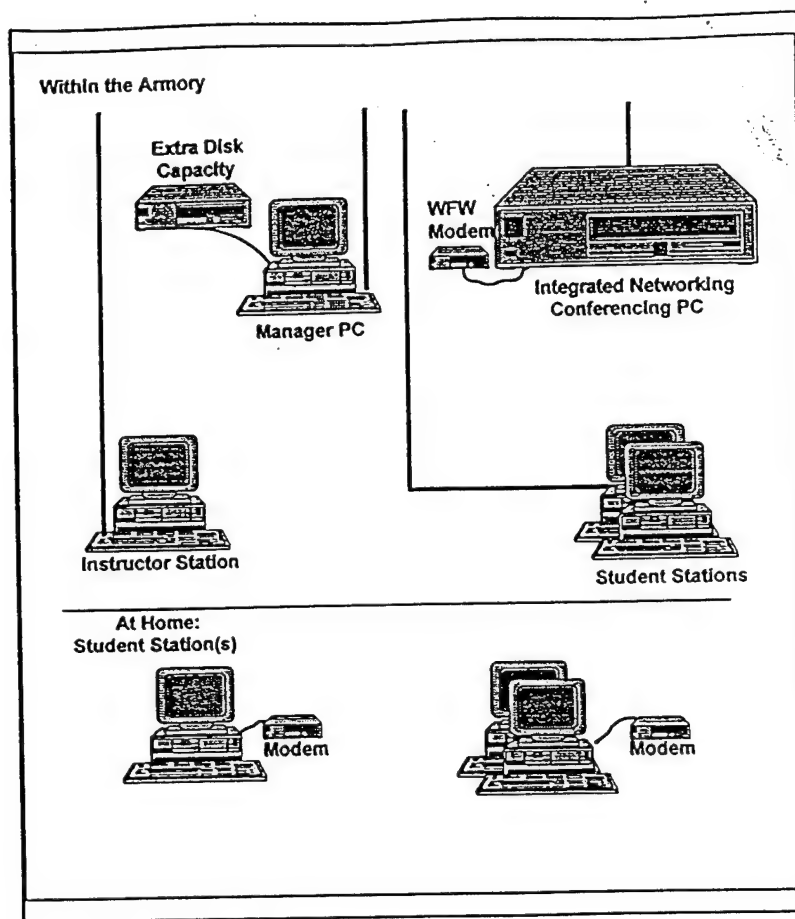


Figure 3. TMS hardware architecture.

Authoring of Courseware

At the armory, or at home, CBI is the foundation for this training system. Staff officers receive their instructional materials through CD ROM in conjunction with the accompanying text based materials.

CBI development required three skills: subject matter expertise, knowledge of instructional design, and computer literacy skills. The program used SMEs that possessed both instructional design and CBI design skills to prepare storyboards for coding into CBI. Authoring systems were available at both Fort Benning and Albuquerque to ensure quality assurance procedures could be applied regardless of where the CBI was coded. *Icon Author 5.0* (™) was used to develop the CBI, templates, and standards. It has previously been accepted as meeting the selection criteria for an authoring system (Park & Seidel, 1989) and ensures compatibility with CSS courses of instruction being developed for another related project under

ARPA auspices. The *Icon Author* package proved relatively easy to learn, formal training was readily available, and an experience base on its use resided within BDM.

Most all of the templates and Smart Objects developed for use were developed specifically to implement the design standards of the BN-BSTS program. Additionally, templates and Smart Objects were developed for the diagnostic, performance measurement and assessment component of the system to enhance the overall learning. Figure 4 provides a diagram of the CBI flow chart.

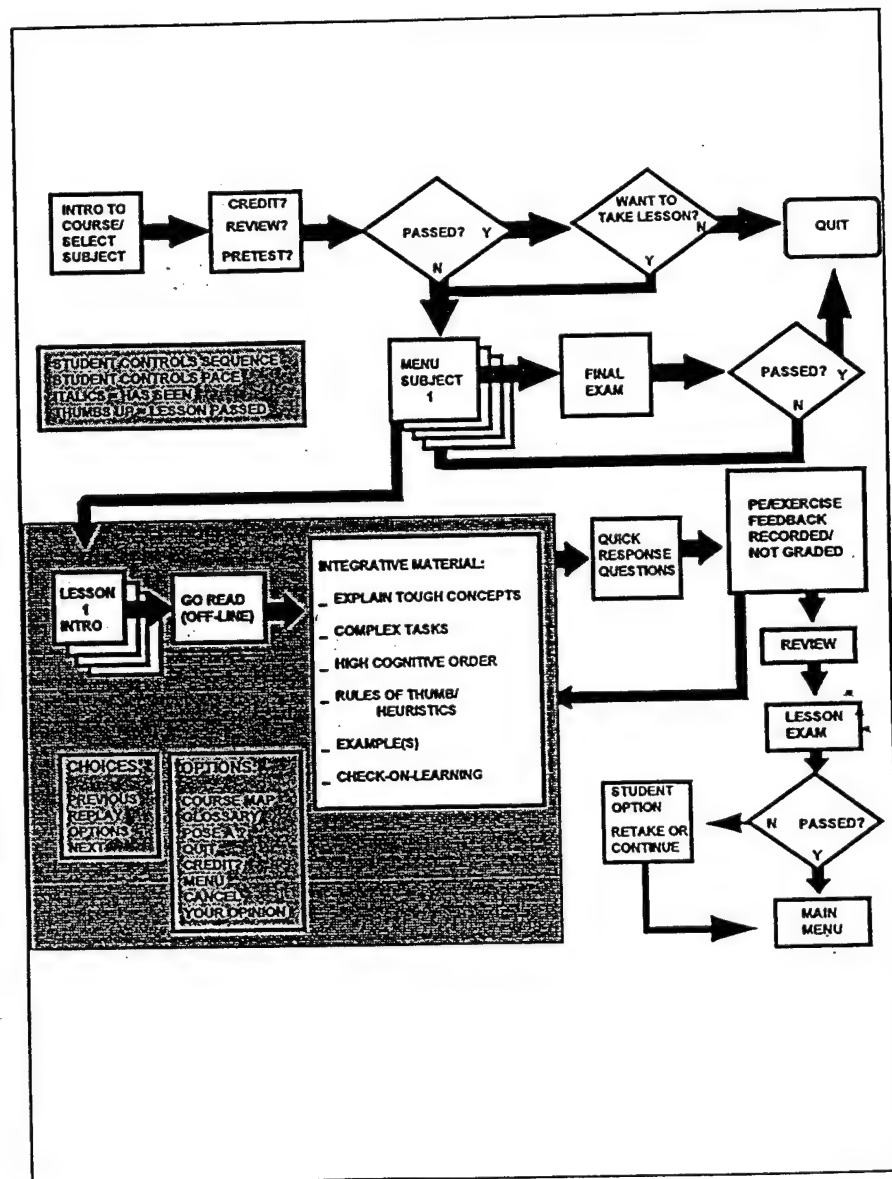


Figure 4. CBI flow chart.

Realism in Training

Realism in training was created and maintained through the use of the common missions derived from NTC rotations and developed and used in the BN-BSTS, CSS, and SIMUTA programs. These scenarios, with accompanying orders, annexes and graphics, were applied to the program to create a realistic context for training and permit the use of a tested "a way" solution which allows the student to review and evaluate the developed solutions.

The multi-media strategy is particularly valuable for providing realism and retaining interest in the training. This strategy includes the application of tactical scenarios which set the context of the instruction and practical exercises. The scenario(s) were built on the scenarios developed and used in SIMUTA programs (Brown, 1992). Students are led through the training context (scenario) applying their learned skills to situations presented. Then, as appropriate, they are provided "a way" solutions against which to compare their results.

Quality Assurance

Quality assurance (QA) was integrated throughout the developmental process. QA for BN-BSTS was accomplished by SMEs for peer review of content, the instructional designer for standards and instructional integrity, the program manager for content and standards, and computer programmers for functionality of the code; thereby ensuring quality instruction that attained the training objective. QA occurred throughout the process, during development of training objectives, performance measures, text, tests and storyboards, and the CBI process.

Results

Thirteen courses were designed for the BN-BSTS program. The courses delivered were Common Core (material common to all positions), and the battalion level Executive Officer (XO), S1 (personnel), S2 (intelligence), S3 and S3 Air (operations), S4 (logistics), Chaplain, Fire Support Officer (FSO), Engineer, Air Defense Artillery (ADA), and the Signal (SIGO) and Chemical (CHEMO) officers. The estimated numbers of course hours are shown in Table 1. Totals for CBI hours are more nearly fixed; the text hours may vary with the reading speed and comprehension of the student.

Table 1

Estimated Number of Course Hours

COURSE	TEXT	CBI	TOTAL
Common Core	29.15	2.00	31.15
XO	18.25	7.50	25.75
S1	22.00	7.50	29.50
Chaplain	5.50	0.75	6.25
S2	28.25	9.50	37.75
S3	12.05	4.25	16.30
S3 Air	51.00	1.75	52.75
S4	10.50	4.50	15.00
FSO	56.90	6.05	62.95
Engineer	22.50	2.50	25.00
ADA	17.20	1.75	18.95
SIGO	15.60	2.00	17.60
CHEMO	43.75	2.25	46.00
TOTALS	332.65	52.30	384.95

Testing and Evaluation

The BN-BSTS was tested through a formative evaluation were process that included Alpha testing by 6 to 10 persons who are SMEs in content, computer programming, and/or instructional design. They looked at the text-based materials, CBI, and the complete course of instruction for instructional soundness and functionality of the computer programming. Figure 5 details the steps in the process; full results are at Appendix D.

Alpha testing of the text was conducted by 3 to 5 SMEs with expertise in the specific battle staff position being trained. The text was reviewed by SMEs from Fort Benning and other proponents around the TRADOC. Testing of CBI was conducted by computer programmers at both Fort Benning, GA and Albuquerque, NM to ensure the proper operation of all codes.

Beta testing of the complete courses of instruction by representatives of the target population was completed prior to finalization of the instructional program. A two-week evaluation

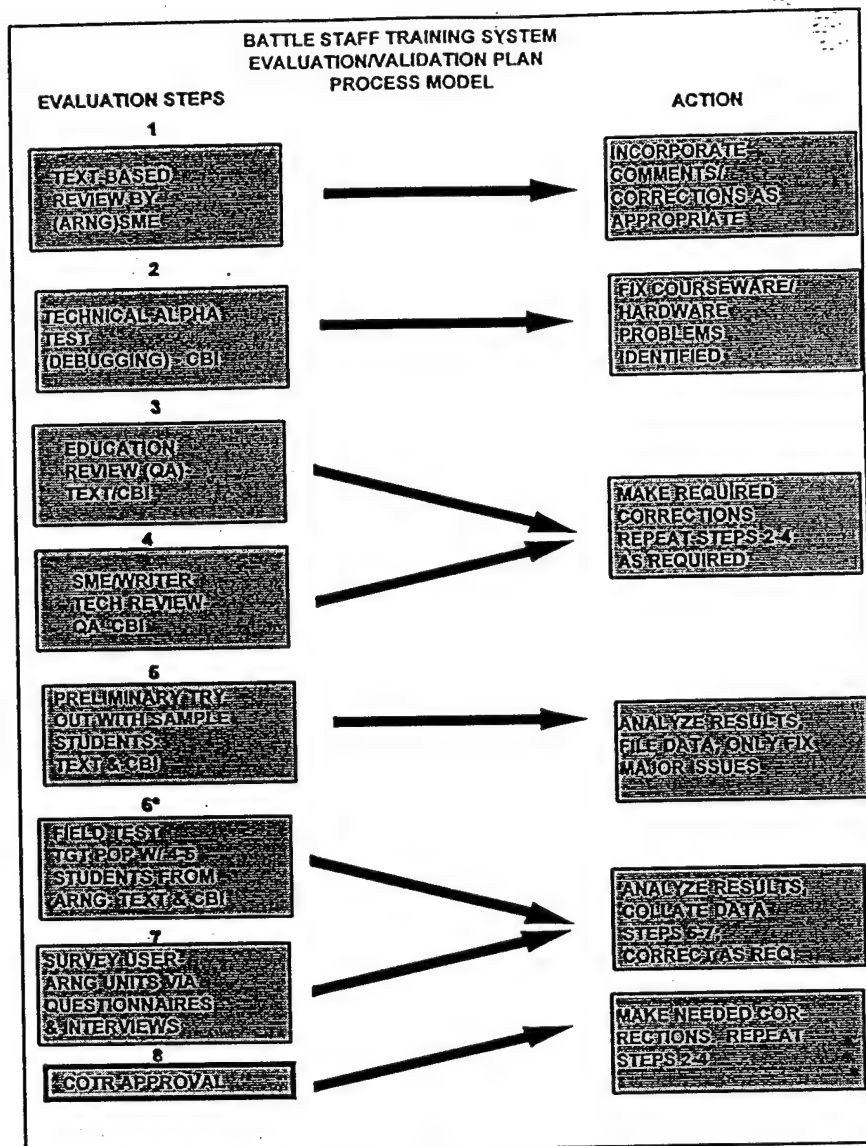


Figure 5. Beta testing process.

at the Military Intelligence School verified application of the S2 package to the AC. Test results included a final evaluation of the courses of instruction by the officers. Of the 12 objective questions asked of every test officer on the post course survey, 81% provided positive comments, and 8% were neutral, and 11% were negative.

Test officers were asked to comment on each lesson (broken down into text, CBI, and examinations), each subject, and the student guide as well as provide overall comments and suggestions on the course(s) of instruction. The most prevalent comment was for more CBI (all respondents) and others asked for more practical exercises (PEs) in CBI ("that's where we learn"). Some commented that historical references and lessons learned were of great value, as were the graphics and humor. There was praise for the quiz format, and CBI in general.

BETA testing of the final course of instruction was conducted on the actual hardware integrated into the network, by ARNG battle staff soldiers. To ensure accomplishment of program objectives, test results and appropriate recommendations, were included in the final course materials prior to final printing of the text or cutting of the CD ROM for CBI. BETA test results were provided as each course completed testing (see Appendix D).

Conclusions

The Battalion-Battle Staff Training System has been designed, developed, and tested to meet the specific training needs of the ARNG with direct applicability to the AC. For the RC it may be used at home, in the armory or state academies for individual study via modem, or in a networked configuration. It can also be used as a supplement to existing courses and in local learning centers.

AC personnel can use it at home for individual study via modem, as a part of or following the Basic and/or Advance Courses prior to assignment as a battle staff officer. It can be used in operational units or in unit education centers in individual study or networked configuration. It can also be used as an addition to existing professional education programs.

This project started on individual battalion training modules for Reserve Component personnel. It can be expanded to the AC, and upward to brigade, to include in its content the greater synchronization responsibilities of personnel in the brigade battle staff. The applicable successes and lessons learned from the BN-BSTS as well as the parent program, SIMITAR, are available to enhance the individual training and performance of all battle staffs.

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Appendix A

HARDWARE AND SOFTWARE CONFIGURATION

Hardware and software (installed and configured) were provided for eleven student stations and the training management system. Specifications were finalized to permit procurement of additional systems at a later date. Requirements include warranty, technical support, and on site maintenance support.

Student Station

Hardware:

486 DX2 Computer; 66 Mhz processor
8-16 Mb RAM, expandable to 32+Mb; 70ns
210-500 Mb Hard Disk
16 bit local bus
101 Key Enhanced Keyboard
Desk top cabinet
Serial Mouse with driver
Action Media II (DVI) card with driver/or compatible (must support .AVS files/compression format)
Sound Blaster 16 Sound board with driver/or compatible, and speakers
150K/300K double spin CD-ROM or equivalent 3-1/2", 1.44 Mb disk drive
9600bps modem with 10BT RJ45 connector
Spider Graphics card, or equivalent, with driver to handle 640x480, 256 color and 14" monitor

Software: DOS 6.21; Windows for Workgroups 3.11; Icon Author; Training Management System (TMS)

Accessories: Surge Strip; 10BT/RJ45 modular plug with 10' cable; Mouse Pad

Manager PC

33Mhz, or faster, 486 PC, 16Mb RAM
200Mb+60Mb per subject, disk storage
Ethernet adapter
2 Shiva net modems

Author Station

66Mhz, or faster, 486 PC, 16Mb RAM
Action Media II (w/capture)
Sound Blaster 16 (w/speakers)
500 Mb disk storage
Ethernet Adapter
150K/300K double spin CD-ROM or equivalent
Spider Graphics card, or equivalent, with driver to handle 640x480, 256 color and 14" monitor
2Gb Tape Drive

Appendix B

INTRODUCTION TO BDM'S ENVIRONMENT FOR MULTIMEDIA INTERACTIVE INSTRUCTION

The TMS Concept

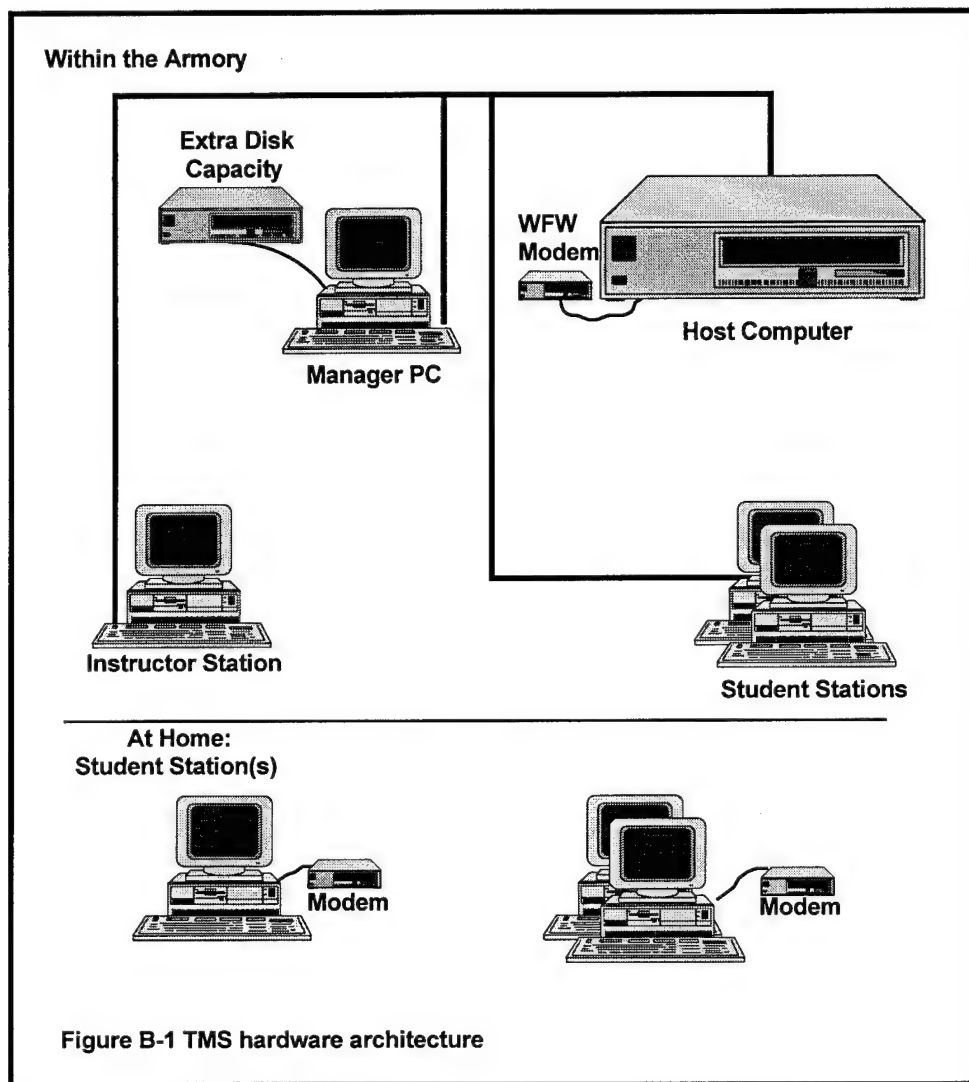
The Training Management System (TMS) as an Environment for Multi-Media Interactive Instruction (EMMii) has been developed by BDM as an enabling environment for multi-media computer based training (CBT) development and delivery. The goals of TMS are:

- To provide a state-of-the-art environment where trainers can develop computer-based lessons for students, incorporating high quality stills, full motion video, and audio in the lessons,
- To assist the Training Staff in the management of their curriculum and materials,
- To automate the administration of training,
- To allow students to proceed at their own pace and to refresh themselves as necessary,
- To provide on-line testing in the subjects,
- To record student/lesson performance data in an accessible form, and
- To acquire data about the lessons themselves.

TMS uses commercial off-the-shelf (COTS) software (S/W) integrated into a system that allows trainers and administrators to make good use of the specific functionality of the packages. The Microsoft Windows (TM) environment then provides a familiar look and feel across the packages.

TMS Hardware and Software

The original TMS was developed for a client on a 486 PC platform under OS/2(TM). However, BDM has ported this system to a Windows (TM) environment. The hardware and software discussed here are for the Windows platform.



The hardware architecture for this system is illustrated in figure B-1. TMS computers are all 486 PCs, attached through a local area network (LAN) and/or a wide area network (WAN) using the computer's internal or external modem, and communicating via Windows for Workgroups (TM) (WFW). The lessons are stored on magnetic or optical media serviced through the TMS "Manager" computer. The Author, Instructor, and Student Stations, are 486 PCs also running WFW. The Author and Student Stations should preferably be equipped with multi-media hardware and software for

full motion video, high quality stills, and audio¹. We recommend the Icon Author (TM) application software package for lesson development and display.

Figure B-2 provides brief descriptions of TMS functional areas. More detailed descriptions are provided later in this document.

Functional Area	Description
Training Information System (TIS)	This is the database interface on the TMS Manager. It Maintains data on lessons, subjects, courses, student histories, schedules, et.al. for administrators, instructors, and authors.
Author Station	This is a collection of software centered around the authoring package that gives access to files stored on the Manager and allows an Author to create and maintain lessons.
Instructor Station	The Instructor's functions are performed through the TIS which can be accessed remotely through another PC.
Student Station	This software allows the student to log in and then manages the student's access to lessons. This software also ensures that results files are sent to the database (TIS).
Storage Manager	This software resides on the Manager PC. It organizes and tracks the materials that make up the various CBT lessons. It can provide an entire lesson, or allow authors to browse for individual files.
Communications	BDM's software uses Windows for Workgroups (TM) to communicate between stations.

Figure B-2, TMS functional areas

¹ Digital Video Interactive (TM) (DVI) is the most robust way to do this. However, other digital audio/video options such as Soundblaster (TM) cards and Video for Windows (TM) can also be used.

All of the functional areas are interrelated and communicate with each other via messages, files, and database queries. Figure B-3 illustrates the interactions between the Authoring Station, the Storage Manager, the TIS, the Instructor, and the Student Station.

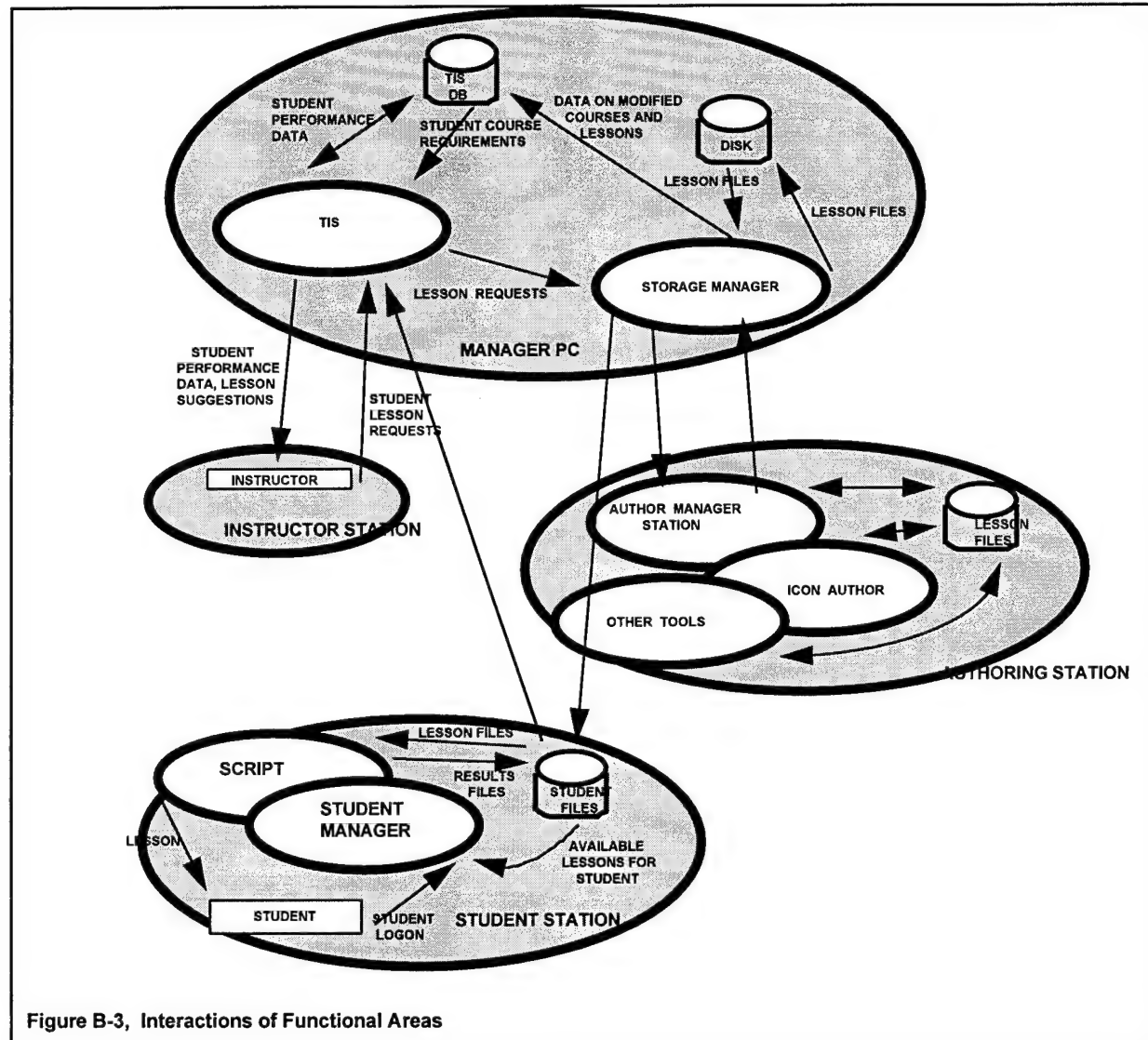


Figure B-3, Interactions of Functional Areas

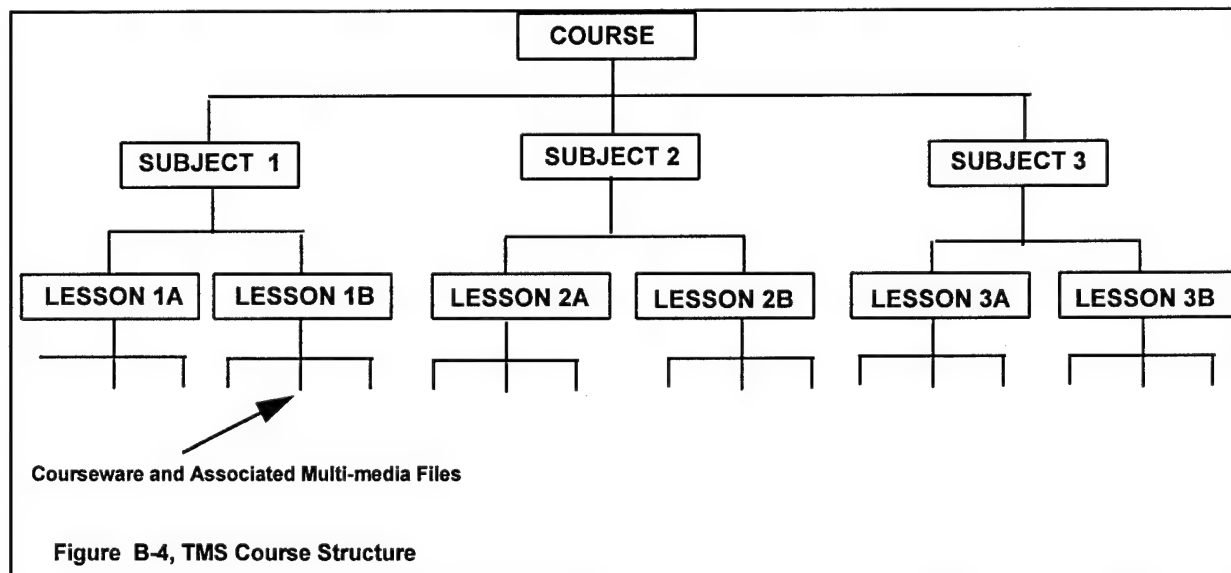
An author can get any previously created files and templates from the Manager while on his PC. Lessons are created using the multi-media authoring package IconAuthor(TM). An author can actually work on their lesson locally without manager interaction once all the necessary files are downloaded to the authoring station. When the lesson is completed, procedures on the authoring station are used to check the lesson back onto the manager where the lesson and its associated files are stored.

The TIS, which has knowledge of the lessons and their suggested order within the course, allows an instructor to schedule students for particular lessons and at specific student stations. The storage manager and the student station then manage the download of the lesson files and the students' own data (bookmark) to the student stations.

When a student takes a lesson, the results and bookmark are collected at the prescribed student station. Upon completion of a student's session, the results are transmitted to the database. If no other students are scheduled for the same station/lesson within 24 hours, the lesson is automatically deleted from the student station upon completion. (Lessons can be made permanent on a student station as well.)

TMS Course Structure

The highest level of organization within TMS is a course. A course consists of subjects, and the subjects are made up of one or more lessons. The organization is illustrated in figure B-4.



Normally only one author will work on a lesson. The lesson consists of a multimedia presentation produced by an author as well as text files, audio files, stills, motion video, and graphics files used in the presentation. All of these files, as shown in figure B-5, become associated with the lesson and are stored on the manager PC after the lesson is checked in.

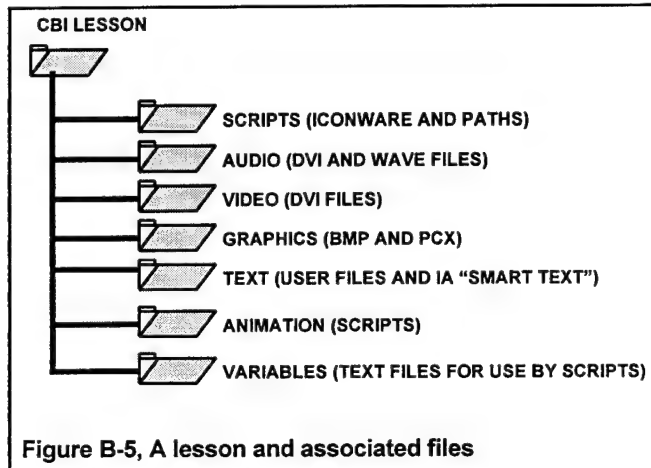


Figure B-5, A lesson and associated files

The files are downloaded to users (authors, instructors, and students) whenever the lesson is referenced. The display type and suffix of the files are maintained by the storage manager to allow identification at the other levels when downloaded.

Maintenance of files and versions of files are performed by the storage manager (on the manager PC).

Common files may be shared by lessons within a subject, by subjects within a course, or by courses within the entire system.

TMS Functionality

The following provide somewhat more detailed descriptions of the TMS functions than were provided in figure B-1.

Author Station Software

Most of TMS is interactive. Figure B-6 shows a typical TMS screen. This particular screen is used by authors to enter short descriptions of their files, in order to make browsing more meaningful when the lesson is stored.

The screenshot shows a dialog box titled 'Project File Description'. It contains several fields and controls:

- A text field for 'Description: 50 Characters Maximum'.
- A text field for 'Questions/Ansrs on E-Mail'.
- A group box 'Common to' with four radio buttons: 'All', 'Course', 'Subject', and 'Lesson' (which is selected).
- A list box containing file names: 'BACKGRND. BMP', 'BOOKMARK.IW', 'BOOKMARK.VAR', 'CHAPTERS.VAR', and 'CHKBKMK.IW'.
- A section with a checkbox 'Reference Title' and a 'Sort by' dropdown menu with three options: 'File Name' (selected), 'File Type', and 'File Type'.
- A 'Current Project' text field showing 'd:\WFWproj\dsc.tms' and a 'Select Project' button.
- A row of five buttons at the bottom: 'Display Required Files', 'Accept', 'Cancel', 'Help', and 'OK'.

Figure B-6, A typical TMS screen

In addition to the scripting functions provided by the IconAuthor (TM) package, the TMS author station software provides the following specific functions:

- Temporary storage and retrieval of lessons
- Fetching files from previously stored lessons
- Checking common file usage
- Entering descriptions of lesson files
- Checking lessons in and out
- Creation of a new lesson

An author may also want to use the TIS to look at course organization as well as student results. The TIS can be accessed through the author administration functions.

Along with the TMS author S/W, special IconAuthor templates and subroutines have been developed to allow authors to retrieve and use data provided by TMS (such as the bookmark, course/subject/lesson names, et. al.) and to provide data back to TMS upon completion (scores, answers, updated bookmark, student assessments, et. al.). Other special templates have been developed to "automate" some standard procedures (use of the bookmark, certain test-types, et.al.) In addition BDM, in concert with subject matter experts and training developers can develop custom templates and shells to be used throughout the organization's courseware, to give it a standard look and feel.

Instructor Station Software

Instructors perform their work through the TIS. The TIS can be accessed through both the author administration and the instructor PCs. The TIS allows an Instructor to schedule student sessions, view results, look at course structure, et. al.

The other TIS functions used by an instructor include:

- Querying the status of a student station
- Adding and deleting permanent lessons from student stations
- Aborting a student's session

Student Station Software

The student station software consists of one log-in screen which is always displayed when the station is not in use. In addition, it contains several background processes that:

- Receive "schedule" messages from the database and initiate lesson downloads
- Ensure that students receive the lessons for which they are scheduled
- Retrieve student test results and bookmarks and log them to the "Host" computer (either the Manager Computer or the Instructor Station)
- Cleanup the student's results and course materials after completion.

The Training Information System (TIS)

The TIS serves several purposes within TMS. Its primary function is to provide course administrators and instructors with information about courses that are available and information about employees training activities. The TIS also maintains detailed records on student training performance and on student assessments of the training received. In addition, the TIS assists the instructor's scheduling of students for particular lessons at specific stations for specific times; thereby, avoiding conflicts with student time and station scheduling, maximizing utilization of stations, and helping to assure that students receive training in the proper sequence. Figure B-7 shows a typical TMS TIS screen, this one reporting on the students who have taken a particular lesson.

Id	Name	Date	Done	Grade	Hours	Bookmark	Approved
0123456789	Onetozero	5/31/94 5:26:11PM		94	21	18	X
9876543210	Ninetozero	5/31/94 5:27:58PM			87		

Figure B-7, The TIS lesson history screen

TMS uses the Microsoft Access (TM) relational database management system software. Using Access provides a similar look and feel to the other TMS functions. The TIS consists of over 50 screens and reports that allow a user to:

- Add/delete students
- Organize curricula
- Schedule student training sessions
- View training status by student or by lesson
- View exam results by student or by lesson
- Archive course materials

The Storage Manager

The purpose of the TMS storage management module is to provide a transparent disk storage system where users on any station are unaware of the actual storage structure use for TMS lesson files. The storage manager provides

- an efficient storage and retrieval system for individual TMS lesson files
- an efficient system for transferring complete lessons between PC workstations and the manager system

Given the probability that the lessons developed will undergo changes with time, configuration management of the courseware is performed by the storage manager. The software also allows designation of files as common to several lessons, decreasing storage space, and making global changes easier to perform.

Communications

The TMS communications software resides on each PC in the system. It uses Windows for Workgroups to perform message and file transmission over an existing LAN or WAN through the use of a modem and standard telephone lines. In addition, small local databases are used by TMS S/W to allow machines in the system to access data about what is happening on another PC (such as instructor/student station interactions).

APPENDIX C

STANDARDS USED FOR THE DEVELOPMENT OF ARNG COMPUTER BASED INSTRUCTION

Introduction

Early in this program, BDM in collaboration with PRC developed a process for setting standards and completed two iterations of meetings to develop standards for the Computer Based Instruction (CBI) to be used in both the Battalion Battle Staff Training System (BN-BSTS) and the Forward Support Battalion (Combat Service Support) Training System (CSS-BSTS) for the Army National Guard. It was expected that in both these cases CBI would be used in conjunction with other instructional media (hands-on, paper-based, etc.).

Since the initial development, both teams have continued to refine their standards, though not jointly. This report explains the standards used by BDM in developing the Battle Staff Training System. There are also references to the data collected and sent to the armory via the Training Management System (TMS). This system is based on BDM's commercial product EMMii - Environment for Multi-Media Interactive Instruction.

The areas addressed for CBI Delivery Standards are in Figure C-1. Descriptions and details of the components of each standard are contained below. More detailed information is included in the enclosures.

Instruction

Objectives.

The enabling knowledge for entrance into the CBI includes a basic literacy with computers and completion of the Officers Basic Course (OBC) for the respective branch officer for all courses except S3 and XO where completion of the advanced course is required. Additionally, officers are required to be branch qualified for their grade (eg. served as a platoon leader for S1, S4.....company commander for S3.....).

Prior to beginning a specific staff officer functional course, all members of the battle staff will complete the lessons in the Common Core Course.

INSTRUCTION
Objectives
Role of Scenario and METT-T Factors
Course Structure
Course Mapping
Strategies
Types of Interaction
Role of Mentor
Motivation
Principles for Media Use

ASSESSMENT
Diagnostics and Prescriptions
Testing
Feedback on Test Performance
Remediation

LOOK AND FEEL
Colors
Fonts
Button Placement
Borders
Screen Layout(s)

FUNCTIONS
Navigation
Glossaries
Accessories

MANAGEMENT
Data to be collected
Data format
Control over progression
Support system
Reports
Guides (for student, instructor..)
Delivery mechanisms
Security

Figure C-1 CBI Delivery Standards

The three levels of learning for a lesson include fundamental skills (individual definitions and components of the staff functional area), individual problem solving (give a problem, apply knowledge, produce a behavior), and, initially, collective training (issue essential portions of a brigade operations order or warning order, apply basic skills, produce individual staff output, and the battalion warning order or operations order). (Based on guidance received in the August 1993 IPR, collective tasks were deleted and only those individual tasks required for a staff officer to enter collective training were retained). Collective tasks are to be initiated in a future program to train dyads and triads (small staff teams) and the SIMUTA program.

The form of training objectives is Task - Condition - Standard.

The organizational competency model follows Olmstead's model, while we "greened up" the explanation to ensure it is received to enhance the instruction.

The instruction allows students to take the subject "for credit", in which case test results are recorded. However, the student may also choose to take a subject for reference, merely peruse a subject, in which case some tests will not be available to him.

Role of Scenario and METT-T Factors

Common scenarios, based on the NTC and synchronized with the SIMUTA and CSS programs, drive the basic skills and problem solving stages of instruction. The common scenario normally drives stages I and II; or scenarios, tailored for the individual training objective, are adapted for stages I and II, when required.

The factors of enemy, troops, and terrain [and weather] are stabilized for training in all stages. However, the factors of mission is varied for offense and defense while time is the key factor that is varied to create the ability to perform under increasing factors of stress and decreasing factors of time.

Course Structure and Mapping

The highest level of structure is the course (S1, S2, S3, ... SIGO). Courses are 10-50 hours duration. The next (lower) level of structure is the subject. A subject is a grouping of lessons. (See figure C-2). The subject is a piece of IconAuthor courseware and associated multimedia files. Most subjects are of 1-2 hours duration (in the CBI). Within the lesson there are topics. The common core course map shows a specific example of such a structure.

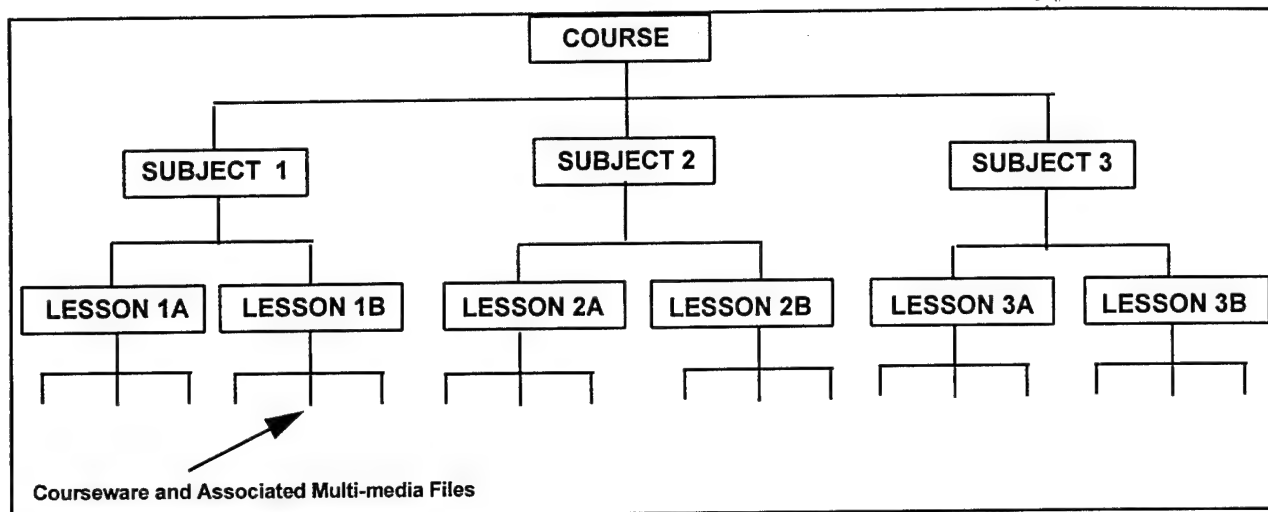


Figure C-2 General TMS curriculum structure

Each course is a mixture of text-based material and CBI. All assessment, performance measurement and diagnostic testing is done within the CBI. There is a short (5-10 minute) introductory CBI subject for each course and lesson as well as a pretest (more on testing later). The lessons themselves are available through a menu in the CBI. The introduction stresses the importance of the material to the officer's job and how the particular material fits into the overall curriculum. It also indicates what reading should be done prior to the taking the exam. For some lessons, the introduction and exam are the only components of the lesson within the CBI. Other lessons include additional CBI material (tutorials, practical exercises, or examples from lessons learned) to strengthen the learning. Such lessons are indicated by a check mark on the course map. There is more on testing philosophy, navigation, and structure in later sections.

Strategies

The specific strategy applied to achieve a specific training objective was selected by the development team SMEs in conjunction with the instructional designer following the model of design and development upon which each team member was trained. The strategies applied in the course development process are: tutorial, drill and practice, guided discovery, problem solving, simulation, games, and cooperative learning. Practice is incorporated to the maximum extent possible to attain the training objective.

Training for the development team included the best application of a strategy to a specific training objective. The SME development team was also trained in behaviorally-oriented

principles of instruction which are appropriate to consider in designing specific instructional strategies.

Types of Interaction

For each strategy selected, the SME has designed the appropriate type of interaction to best achieve the training objective. Types of interaction include recognition, recall, comprehension, application/analysis, synthesis, and evaluation. The section on feedback, diagnostics, and testing has more on this.

Role of the Mentor

Clearly, the optimum method to achieve a high performing staff member and battle staff [particularly in high order cognitive tasks] is through the availability of a mentor during the process. As to whether this program can now, or in the future, acquire/afford a mentor has been discussed and explored during the period of the contract. Regardless, an instructor or trainer is strongly recommended and can be made available through the E-Mail and Chat functions provided through the TMS and Windows for Workgroups (WFW). (See section on support systems, below.) Students, at any time, have the ability to pose a question that will ultimately be posted for response by a mentor, instructor, or trainer. As the battle staff progresses through the course structure (stages I - III), there may be an increased need for the mentor, instructor, or trainer.

Motivation

Techniques applied to motivate the student (and overcome the commonly observed attrition effect in distance learning) by the SME/design team include humor, fantasy, games, challenges, and competition with self and/or others. These techniques are applied based on the learning stage, type of skill and instructional method.

Principles for Media Use

Use of media is tailored to the training objective and to meet the test of effectiveness (training and cost).

Video is used judiciously for key points, to gain attention, or for motivation. It is applied for demonstration of principles, equipment, lessons learned, to provide a historical perspective, and, to a minor extent, for variety.

Most screens use audio to emphasize key points and supply additional information to the learning. A male voice is used for the target population. Existing (TASC) audios or videos have been used in some cases; however, most have been created by the SME specifically to support the learning objective .

Text is used on most every screen and amplified with audio, video, graphics, photo stills, or animation.

Graphics and photo stills are used to anchor a learning objective and apply doctrinal publications (Field Manuals, ARTEPS, and Tactics, Techniques and Procedures) to ensure the officer can quickly refer to the doctrinal publication in field application.

Animation is used judiciously for motivation or variety.

Level of reading is a 10th grade level of reading.

ASSESSMENT

Diagnostics and Prescription

Each subject begins with a diagnostic test (pretest) that is identical to the final subject examination. The student is not given the correct answers to the pretest questions. However, he is shown which questions he missed and is told (on the main menu) the lessons he did well enough on to skip over during the conduct of the subject. If the student desires, he has the opportunity to complete lessons on which he has demonstrated mastery through the diagnostic pretest.

Testing

There are three types of tests: quizzes, lesson exams, and pretests/final exams. Quizzes are graded to provide the student a measure of his performance; but, results are not stored in the database for future analysis. Exams (lesson and final) and pretests are graded, issued a percentage score, identified as to pass/fail, and stored for analysis and review. A student may take any quiz, lesson exam, or final as many times as he wishes. Each pretest may be taken only once.

Each subject begins with a pretest that the student must take before taking the subject for credit. The student will take this test only once. The TMS tracks that the pretest has been taken and does not permit it to be re-taken. If the student passes the

pretest (achieves a score of 80% or better on each lesson in the subject), he is considered to have passed the subject, and can either proceed to another, or continue with the one at hand. Students may always return to a subject they have taken previously or review or additional study.

There is also a final exam (mastery exam) for each subject. The final is identical to the pretest (except that the questions are re-ordered and feedback is given as to both the correct answer and where the student can gain the information to learn the objective measured by the question) and covers the entire subject. A minimum score of 80% is required for mastery before the student is considered to have "passed/receive a GO" on the subject.

Each lesson has an associated lesson examination. This exam is graded and recorded in the data base. A minimum score of 80% is required for mastery. Mastery of the material is required before the CBI will advise the student to move to the next lesson.

The examination format is multiple choice or a derivative thereof in most cases, as the computer cannot [easily or accurately] grade subjective type examinations. Derivatives of the multiple choice include matching, sorting, choose from a list, choose spots or locations on a map, or graphic, or use of fill-in-the-blank.

Most lessons also contain quizzes or practical exercises (PEs). The PEs may or may not have "correct" answers associated with them. Most have only "suggested" or "A-Way" answers designed to encourage the learning of the cognitive concept [or model] behind the PE for application under different factors of METT-T. Responses to questions in PEs are neither graded nor recorded to encourage the battle staff officer to take risks, try new concepts and enhance the cognitive learning process.

Feedback on Test Performance and Remediation

As mentioned in the section above on testing, there are three types of tests used. The answers and scores on two of the three types are recorded within the TMS. The following addresses user feedback on each type.

Quizzes and exercises are designed to be instructional to the user in terms of what he has learned or still needs work on. Immediate [right or wrong for quizzes] feedback is given on each question; with reinforcement for right answers, and inferences

as to what is correct for wrong answers. In some cases the question is re-asked when the answer is wrong. The PEs follow a similar philosophy.

Fill-in-the-blank exercises are used somewhat. The computer grades these by comparing the user's response to a list of acceptable responses.

Exams are not used as a Go/No Go between lessons (based on guidance in the September 1993 IPR), but merely as a suggestion for student progression. Failure on a lesson exam (not meeting the 80% threshold) does not prevent the user from proceeding to another lesson. On the lesson exams, the user is provided specific feedback for each question by providing the correct response and additional information to anchor the learning objective.

On a pretest, the user is shown which questions he missed and told which lesson (within the subject) to which the missed question applies. Based on the areas missed, the user is shown the main menu with thumbs up/down to indicate which lessons should be re-examined before taking/retaking the final exam. (See the section below on navigation.)

Similarly, upon completion of the final exam, the user is shown which lessons he did well on. He is also given individual feedback (right/wrong and in some cases an explanation) for each question. He is normally shown the correct answer for these questions, although in some cases, the specific feedback indicates the correct answer. Additionally, feedback will refer the student to text/CBI where he can study to achieve the learning objective.

Look and Feel

The following standards reflect what is readily available within the Windows and the IconAuthor environment. Templates were created to make much of the navigation and functionality more uniform across lessons, subjects and courses and enhance the time required to produce the CBI.

Colors

Menus and opening screens have a dark gray background with silver buttons. Individual screens within lessons, introductions, exercises etc. use a variety of colors to enhance interest, readability, and maintain student attention.

Text is in a variety of colors. Menus and opening screens use black, white, silver, navy, and maroon (for emphasis). Other screens use colors that provide good contrast to the background. Use of florescent colors has, normally, been avoided because these often appear to pulsate on a bright screen and can thus be annoying.

Fonts

Arial is used for most text; 12 point and 14 point are preferred for normal text, with larger sizes for titles. In some instances 10 point arial is used when there is inadequate space for a larger font. Buttons are in a standardized font across the entire system (all courses, subjects, and lessons) as they are based on templates designed for the entire system.

Button Placement

Navigational buttons are at the bottom of the screen and are consistent throughout all the courseware. Size and placement of buttons are discussed in the section below on screen layout. For PEs, buttons are placed in the logical location to aid student learning.

Borders

Screens do not have borders on them. This enabled us to make full use of the space available. Many screens will have a small text field or icon in the upper left corner as an indicator of the subject to aid the student in navigation.

Screen Layout

Menus contain no more than eight menu buttons, with screen navigation buttons at the bottom. They are generally 240 by 40 pixels. (Larger if needed).

Menu buttons generally correspond to lessons or topics. Normally the user will progress through the lessons/topics in the sequence designed by the SME and as shown (top to bottom). Figure C-3 provides a sample main menu from the IPB subject in the 52 course.

To aid the user in navigating, the main menu is titled with the course and subject, as in figure C-3.

Submenus are used to allow the user access to individual items within a lesson. These include, at a minimum, the lesson introduction and lesson exam. In some instances, they provide access to topic material and/or practical exercises.

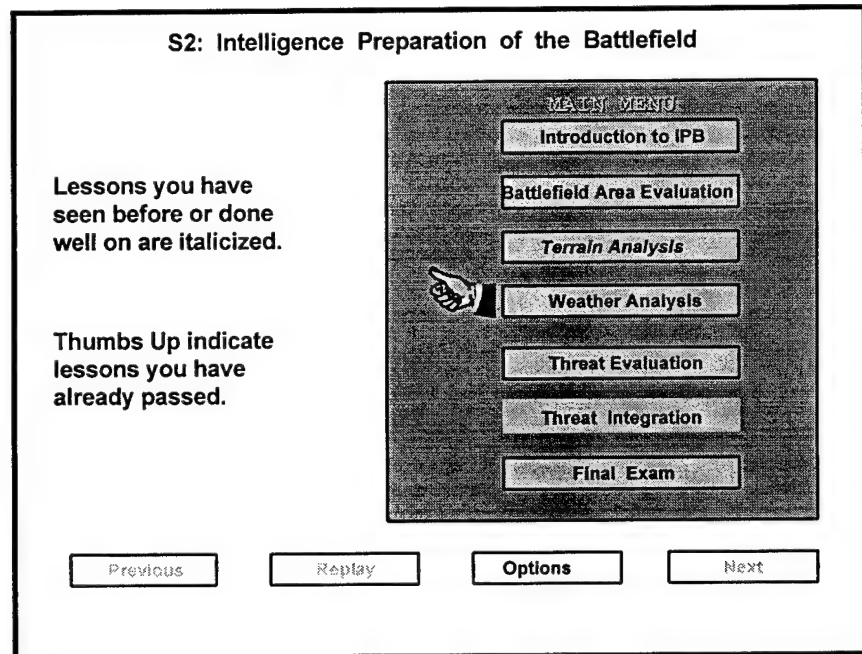


Figure C-3 A Sample Main Menu

In either case, the same look and feel standards mentioned above apply. The submenu contains the name of the course and lesson instead of the subject and lesson.

Other than menus, most other material is shown on a screen such as figure C-4. Buttons are 40x160 (**Options** and **Replay**) and 40x120 (**Next** and **Previous**). Not all buttons are available all the time. Those not available are grayed.

The **Next** button is used for page turning when needed. Not all screens require the user to press **Next** to get to the following screen, but any screen with a substantial amount of text or diagrams allows the user to choose when to proceed.



The **Previous** button is the reverse of **Next**.

The result of "**Previous**" is not necessarily "the previous screen". For example, one may show a diagram with audio, followed immediately by a text screen referring to the diagram.

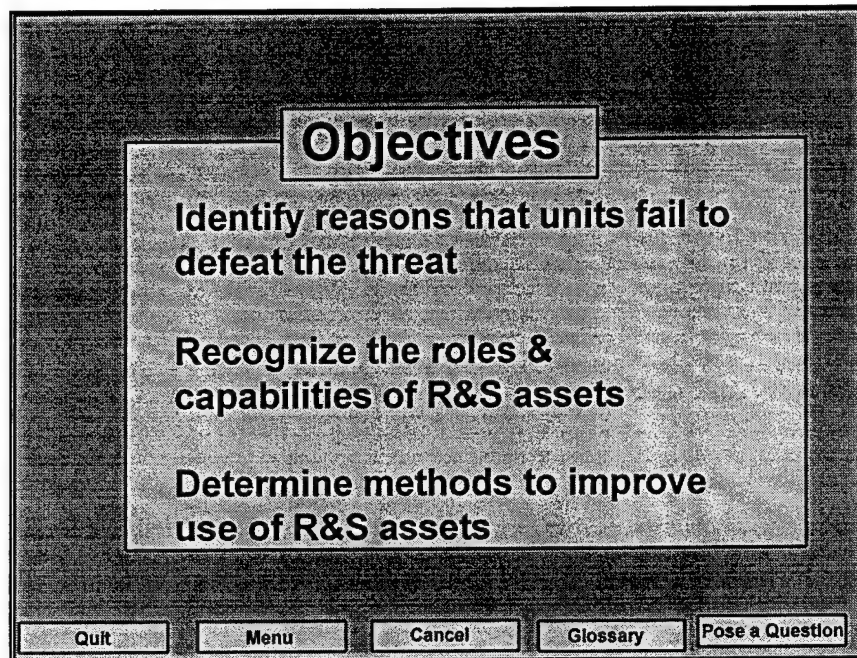
Figure C-4 A Standard Screen with Navigation Buttons

The text screen contains the **Next** button, which sends the user to a third screen. The "**Previous**" button on the third screen might more naturally send the user back to the diagram rather than the text.

The **Replay** button is more immediate. It is used to replay an audio or an animation. Again, **Replay** may cause the user to replay several screens.

The **Options** button is a catch-all. It produces a sub-menu of options. These normally include a **Menu**, a **Glossary**, a **Pose a Question** function, and a **Quit** function. A **Cancel** button removes the options from the screen. Figure C-5 provides a sample of what this looks like. Again, not all of these are available all the time, although the glossary and pose a question functions are available most of the time. The **Menu** function returns the user to the menu on which the current item (exam, lesson, topic, exercise, etc.) resides. Other standards for glossaries etc. are discussed below.

The **Glossary** and **Pose a Question** functions are not available



during exams or the pre-test or final exams.

In the case of a multiple choice question, 50 by 50 pixel buttons, labeled A-E are used. If the question has fewer than five possible answers, unneeded buttons are not shown.

Figure C-5 Sample of the Options Menu

For most questions, the **Next** button is used by the user to register his response, thus allowing him to change his answer before it is recorded and/or checked.

Functions

Navigation

Initially, the user is shown the screen in figure C-6. If he has never taken the pretest for this subject, the pretest button is available (ungrayed) and the final exam button is unavailable (grayed). If he has taken the pretest previously, the pretest button is grayed and the final exam button is ungrayed. In either case, the user may look at the introduction or go to the main

menu. If he chooses the main menu, he is asked if he wants to take the subject for credit.

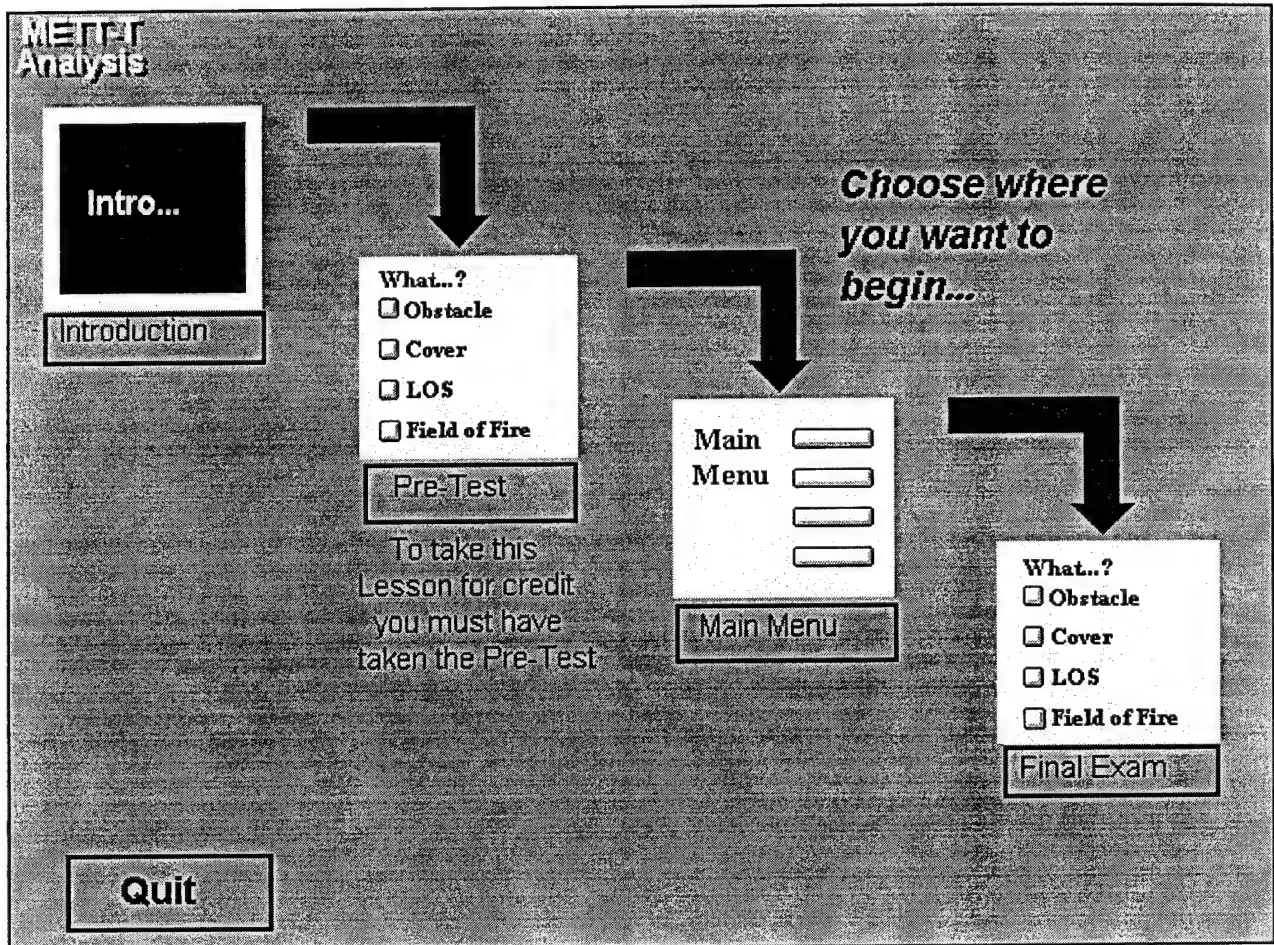


Figure C-6 The Initial Screen

A sample main menu is shown in figure C-7. This one shows a user who has not passed the pretest, but has either passed the lesson exam for the weather analysis lesson or passed the weather analysis material on the pretest. (This is indicated by the "thumbs up".) In figure C-7, the third lesson, terrain analysis, is italicized, indicating the user has seen some of its material at a previous time. This user has not yet taken the final exam.

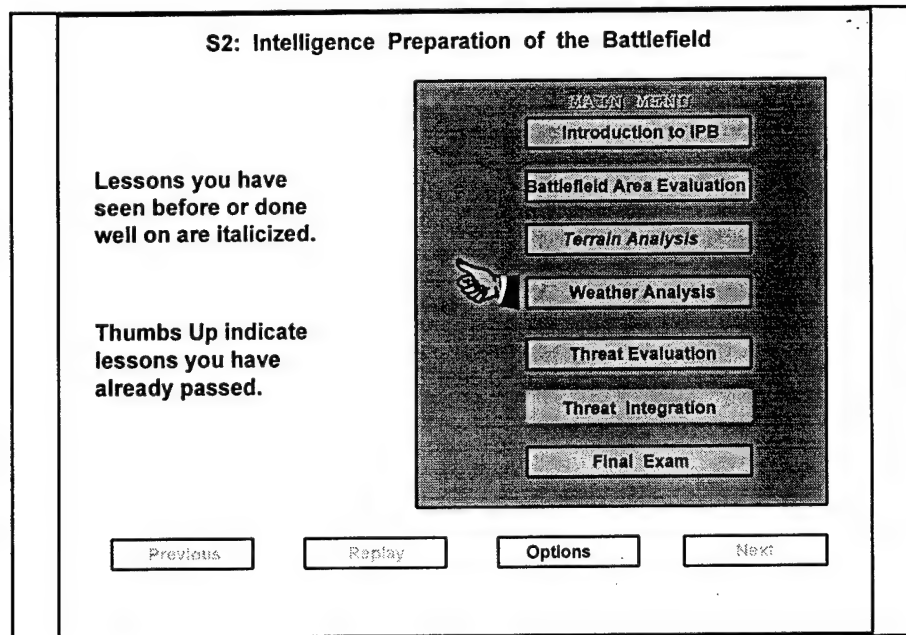


Figure C-7 The main menu for a user who performed well on only one lesson on the pre-test

Whenever a student exits the CBI, a bookmark is placed within his local database (and eventually the host (Armory) database) so the next time he returns to this subject, his main menu will look the way it did when he last exited the subject.

The lesson menu will indicate (via a thumbs up) whether or not the lesson has been passed (either via the lesson exam, via the pretest, or via the final exam. If the lesson has not yet been passed, the item on the menu last viewed by this user is italicized. Figure C-8 shows the lesson menu for S3: METT-T Analysis where the user has not passed the lesson and he last viewed the Mission Analysis topic.

Once the user has taken the final exam (at least once), the main menu will indicate (via thumbs up) which lessons were passed on the final.

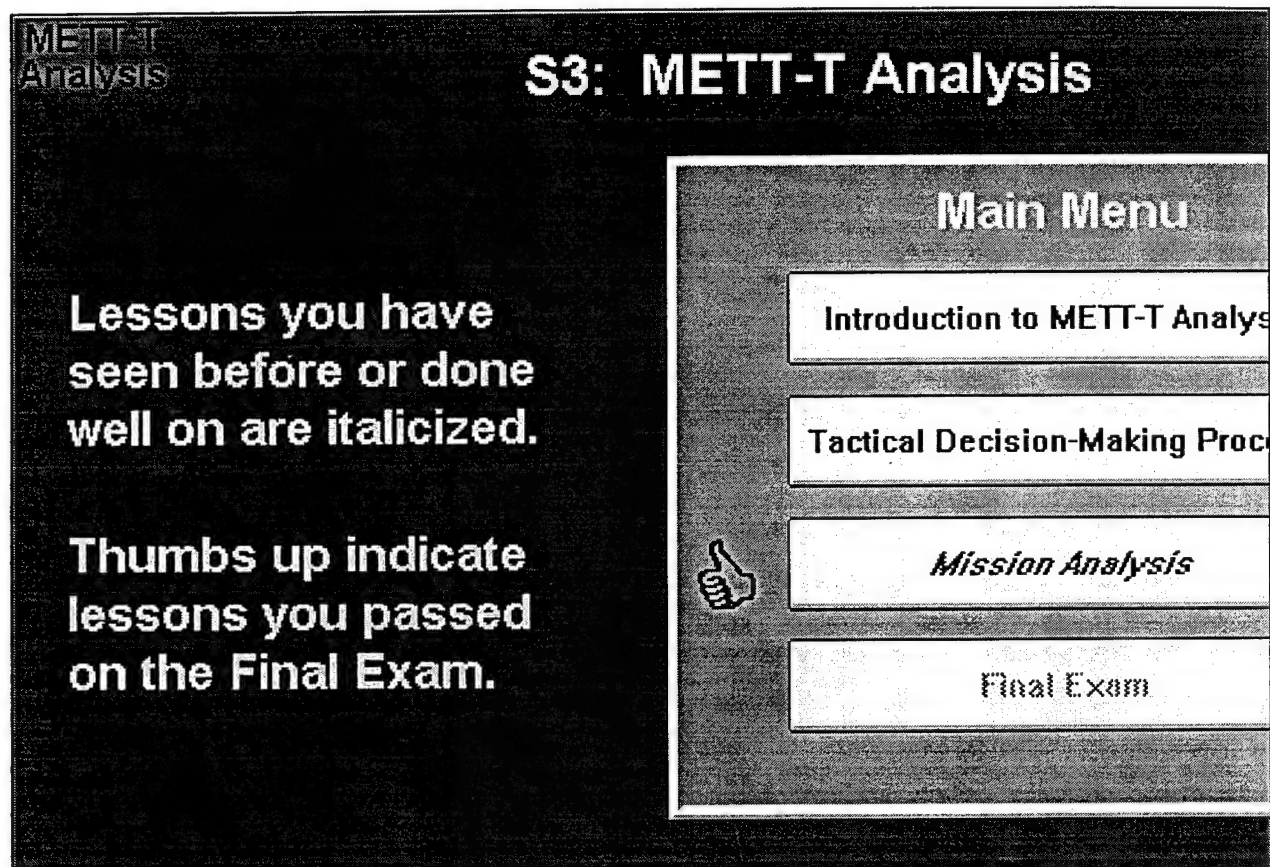


Figure C-8 Lesson menu where a user last viewed the third item
Glossaries and accessories

Each course has a glossary designed by the SMEs to aid learning. The glossary is available through the **Options** button. The **Glossary** itself is a Windows Help File, and as such has hot spots and keyword searches available. The first page of such a glossary is shown in figure C-9. The user may return to the last screen he was on by using the **Previous** button.

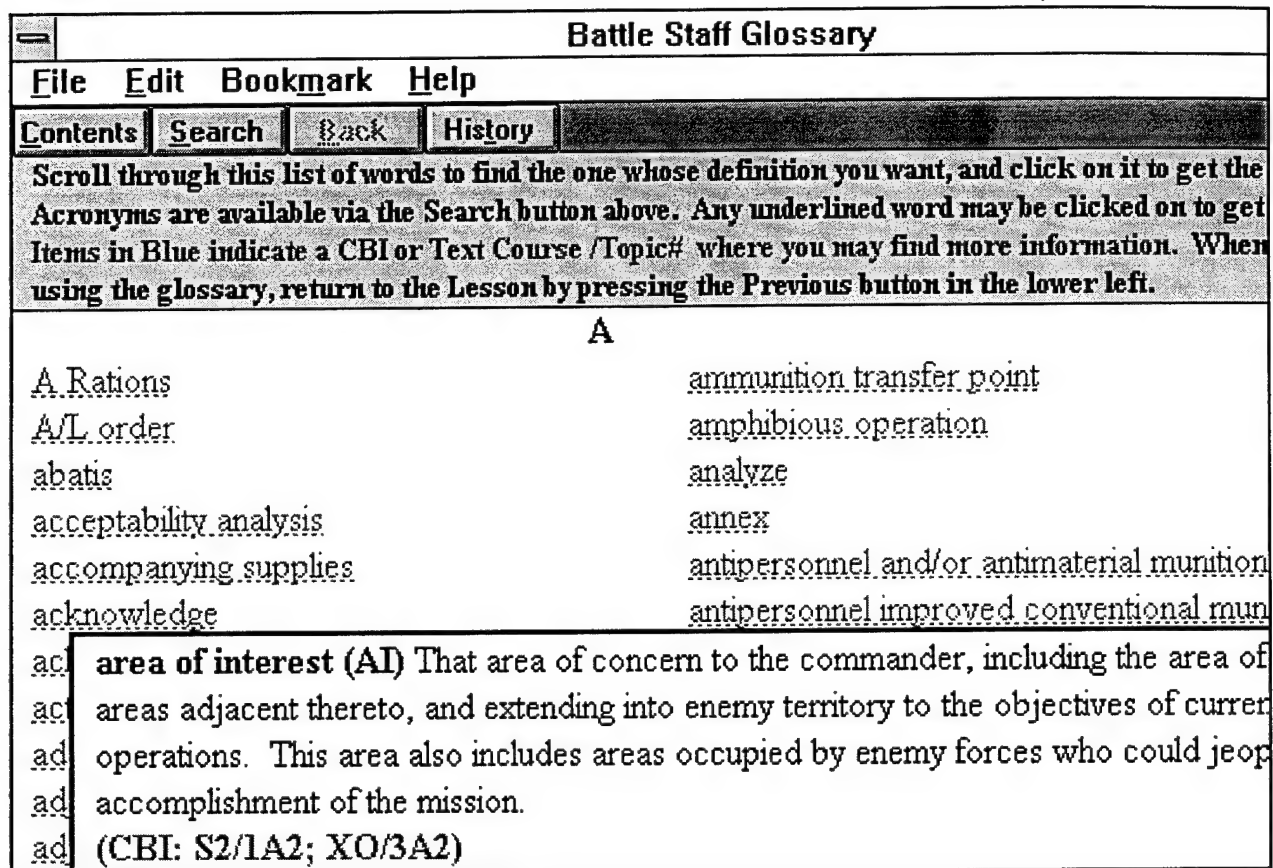


Figure C-9 Sample from the glossary

Other accessories include a **Course Map** and the **Pose a Question** function on the **Options** key. These are discussed below and in the section on management.

The student is allowed to type in a question for his trainer/mentor via a **Pose a Question** function in the **Options**. The question, plus some information about where in the subject he was when he asked it, are written to a file. This file is automatically sent to the host computer (armory) system when the student uploads results. (See support systems, below).

Management

Data Collected from Training Sessions

Every exam within a lesson has a number. This number along with the type (lesson exam, pretest and final exam) is recorded in the database, as are all the user's responses to computer-graded questions. Thus, the TMS has access to what answer (A-E) the battle staff officer gave to question number 3 on Exam 2. If the battle staff officer takes an exam more than once, each iteration is kept as a separate record.

The start/stop date/times for each student session and the student's bookmark are recorded in the database. Other data are also maintained:

- Names and social security numbers of battle staff officers
- Current progress in courseware.
- Courses being used by officers.
- Course (s) curriculum.

Data Format

Attached are sample screens and reports from the TMS database. These should give a reasonable idea of the type of data available. Additional data are available in the TMS user's guide.

The TMS does allow the database administrator to establish roles for users. These roles then determine which screens, functions and reports that a user may access.

Control over Progression

Originally, it was expected that the TMS would control the student's progression through the courseware by disallowing access to a subject if its prerequisites had not been passed. Following instructions we received during the September, 1993 IPR, this is no longer the case. A student can access any subject or lesson for which he is scheduled in any order. The student will be told which subject(s) he has accessed and/or passed.

What distinguishes a course from a subject in the user's viewpoint will be the fact that within a subject he will have menus and screens that allow him to navigate between lessons and topics. Whereas going from one subject to another will generally involve an exit from the specific courseware to the TMS student environment.

The standards discussed in this document (size, content, and structure) are for a Subject.

Within a course, the student progresses from subject to subject. Within a subject, he goes from lesson to lesson. While the terms subject and lesson are consistent within the student documentation, within the Battle Staff TMS (the software and file structure), a lesson and a subject are the same thing. This is best understood by thinking of each (TMS) subject consisting of one (TMS) lesson, each with the same name. The TMS thus does not know about the lessons within the subject's iconware.

The user is registered at the host computer (armory) for a course (or courses) and is provided with a schedule disk; CD ROM(s) containing the courseware; the student guide containing the text, curriculum, job aids, maps, operations order, instructions for assembling the computer, etc.; and his student computer. The student then can take his computer home and study at his own pace, in the sequence of his choice, and become a proficient battle staff officer.

Support Systems

Outside the courseware is the TMS student environment. The user has several functions available here, as shown in figure C-10.

The user is able to connect to the host computer via a (Shiva) net modem (located at the armory end) and appropriate modem software (S/W) at the student's machine. The connect is performed easily via the TMS Student Station S/W. Once connected, the student has the use any of the network functions: results upload, E-mail, and chat, via the TMS Student S/W. Results upload sends data from the student's local database to the host database at the armory for review by the trainer. Any questions he may have posed are also sent to the host database. The E-mail facility is the standard one provided with Windows for Workgroups (WFW). It allows the user to send mail to other users and to receive mail. The chat facility is also via WFW. It allows users on the network to converse with each other in real time through text messages.

The user is also able to find out where in the course progression he stands (lesson summary) and what he should take next. This is available through the TMS student environment, not the courseware.

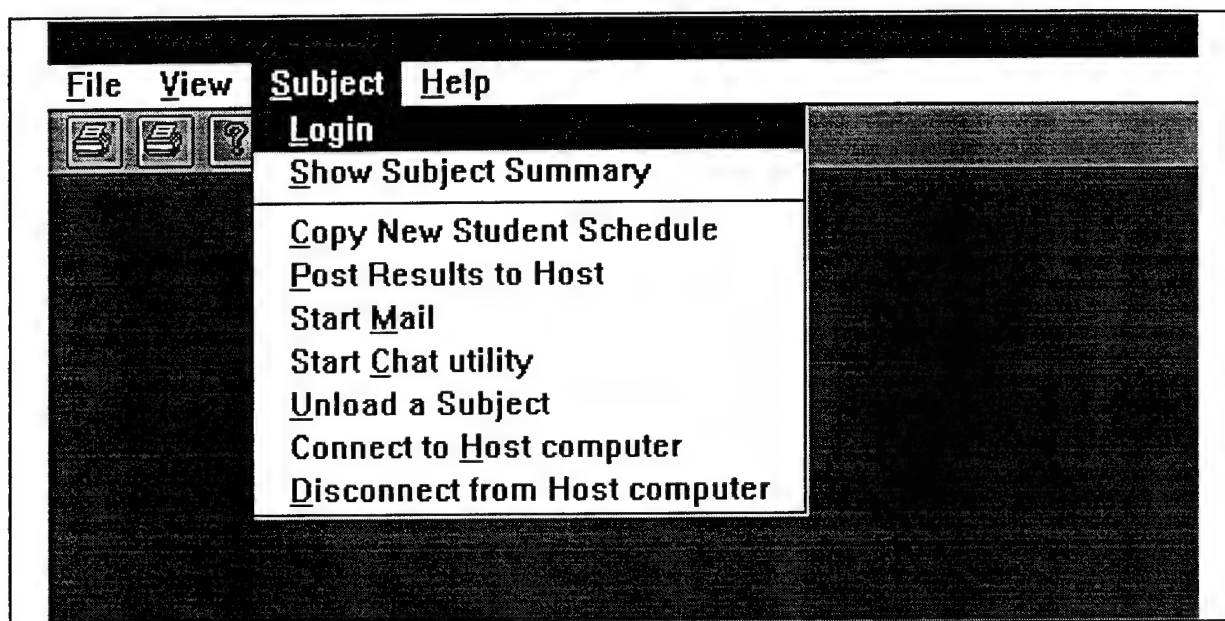


Figure C-10 Student Functions Available in TMS

Reports

Attached are some standard TMS reports. These indicate the type of data available to the trainer.

Guides

Each course contains a student guide that includes the course text, syllabus, course map, list of lessons, list of topics, all training objectives, a comprehensive list of references, instructions for assembling the computer and instructions in case the computer doesn't respond as expected. Additionally, the brigade operations order, students handouts, job aids for his smart book, maps or templates required to complete a course are included in the guide. The student guide refers the student to existing doctrinal publications but does not create new, or modified, doctrinal publications. One of the key goals of the courses of instruction is to enable the student to become proficient in both the knowledge in the doctrinal publications and learn to quickly refer to the publications in a field environment.

There is an instructor guide for the system for use by the mentor, instructor, or trainer. The instructor guide includes all key information in the student guides, a guide to how to conduct an AAR, and the references for each topic to guide the student in remediation. Additionally, instructions on how to operate in the TMS environment (scheduling a student, monitoring a student's progress, reports, etc) are included in the guide.

Delivery Mechanisms

The courseware will be delivered via 486 PCs equipped with digital video interactive (DVI) play capability, a 16-bit sound card, and speakers.

Means of delivery of courseware to the PC is via CD.

Security

Security at the student level was deemed unnecessary. While it isn't easy for a student to modify his answers before they go to the database, it is not impossible.

As mentioned earlier, the TMS allows a wide range of variation in access to data among users. We will have to work with the Guard to establish the set of roles used and who will have what role.

Students

Save Cancel

Id: 274804089

Last Name: Kasprzyk

First Name: Jennifer

Middle Initial: D

Position: Admin Coordinator

Department: TS, 214

Location: Ft Benning

Phone: 706-545-3734

Form View

Figure C-11 Student data screen

Courses

Name Course Archived? CD Label Add Delete

Common Core CC No CD Label Common Core CD

Narrative A common set of material to be mastered by all ARNG Battle Staff.

S2 S2 No CD Label S2 CD

Narrative The ARNG S2 Course. Contains a Course Intro and 7 Subjects, IPB through BN HQ Coordination

Narrative

Form View

Figure C-12 Screen for adding/editing course information

Lessons

Lesson ID: CC - 0: Intro to CC v.001

Course Name: Common Core Course: CC

Subject Name: Intro to Common Core Subject: 0 Order: 001

Lesson Name: Intro to Common Core Lesson: Intro to CC Order: 000 Version: 001

Directory: 10

Description: Contains a short introduction to what the CC Course consists of.

Narrative:

Duration: 00:10 [HH:MM] Mode: C Size: 001 in Megabytes

Approved? No Archived? No

Figure C-13 Screen for adding/editing lesson information

Schedule a Course using CD(s)

Student Name: Andre, Charles R.

Id-Course: 003889373-CC

Student Name: Andre, Charles R.

Course Name: Common Core

Double Click here to schedule the Course's Lessons

Figure C-14 Screen for scheduling a student for an entire course on CD ROM

Form Edit Records Help

Student Schedule

Lookup:

Id: Name:

Start:	<input type="text" value="2/17/95 7:02:00 PM"/>	Common Core	CC
End:	<input type="text" value="2/17/95 7:02:00 PM"/>	Battle Staff Integration	7
By:	<input type="text" value="chuck"/> Type: <input type="text" value="C"/> Done? <input type="checkbox"/>	Battle Staff Integration	Btl Stf Intg 001
When:	<input type="text"/>	CD ROM scheduled lesson	CDROM
Start:	<input type="text" value="2/17/95 7:02:00 PM"/>	Common Core	CC
End:	<input type="text" value="2/17/95 7:02:00 PM"/>	Military Briefings	6
By:	<input type="text" value="chuck"/> Type: <input type="text" value="C"/> Done? <input type="checkbox"/>	Military Briefings	Mil Brfngs 001
When:	<input type="text"/>	CD ROM scheduled lesson	CDROM
Start:	<input type="text" value="2/17/95 7:02:00 PM"/>	Common Core	CC
End:	<input type="text" value="2/17/95 7:02:00 PM"/>	Terms & Graphics	5
By:	<input type="text" value="chuck"/> Type: <input type="text" value="C"/> Done? <input type="checkbox"/>	Terms & Graphics	Terms&Grph 001
When:	<input type="text"/>	CD ROM scheduled lesson	CDROM
Start:	<input type="text" value="2/17/95 7:02:00 PM"/>	Common Core	CC

Form 9/5/95

Figure C-15 Viewing a student's schedule

Form Edit Records Help

Student History

Lookup:

Id: Andre Charles R

Course:

Subject: Order:

Lesson Name	Version	Date	Done?	Grade	Hours	Bookmark	Approved?

Form 9/5/95

Figure C-16 Viewing a student's status in a lesson

Form Edit Records Help

Opinion Summary by Lesson

Lesson:

Course Name:
 Subject Name #Order:
 Lesson Name [Version] #Order:

Criterion - Description	Avg.	Min.	Max.	Count
01 - I believe I had sufficient background knowledge to prepare me for this lesson.	4.00	4.00	4.00	1
				<Answers
02 - The post-test was an accurate assessment of my knowledge on this subject.	5.00	5.00	5.00	1
				<Answers
03 - The quizzes and exams often tested irrelevant or unimportant information.	2.00	2.00	2.00	1
				<Answers
04 - The CBI portion enhanced my understanding of the paper-based lesson material (student guide, FMs, etc.)	5.00	5.00	5.00	1
				<Answers
05 - The computer setup and administrative procedures were too much trouble.	5.00	5.00	5.00	1
				<Answers

Figure C-19 A summary of student opinions

Form Edit Records Help

Opinions

Lookup:

Course: SIGO Lookup:

Subject: 1 Order:

Lesson: Signal Spt Order: Ver:

Date: Approved? ☐ Credit? ☐

Intention	Description	Rating	Answer

Intention	Description	Comment

Form View

Figure C-20 Viewing one student's opinions

Catalog

18-Feb-95

Course Name

Order ... Subject Name

Order ... Lesson Name[Version]

ADAO - ADAO

000 ...Introduction - 0

001 ... Introduction - Intro [01]

001 ...Air Defense Planning - 1

001 ... Air Defense Planning - Planning [01]

002 ...Air Operations - 2

001 ... Air Operations - Air Opns [01]

BN TF XO - XO

000 ...Introduction - 0

001 ... Introduction - Intro [01]

001 ...Battalion Staff - 1

001 ... Battalion Staff - Bn Staff [01]

002 ...Personnel - 2

001 ... Personnel - Personnel [01]

003 ...Intelligence - 3

001 ... Intelligence - Intelligence [01]

004 ...Operations - 4

001 ... Operations - Operations [01]

005 ...Logisitics - 5

001 ... Logisitics - Logisitics [01]

Chaplain - Chap

000 ...Introduction - 0

001 ... Introduction - Intro [01]

001 ...Religious Support Activities - 1

001 ... Religious Support Activities - Spt Actvts [01]

002 ...Chaplain's Role as a Staff Officer - 2

001 ... Chaplain's Role as a Staff Officer - Role [01]

Chemical Officer - ChemO

000 ...Introduction - 0

001 ... Introduction - Intro [01]

001 ...Organization & Duties - 1

001 ... Organization & Duties - Org&Duties [01]

Course Name**Order ... Subject Name****Order ... Lesson Name[Version]**

002 ...Task Force NBC Operations - 2

001 ... Task Force NBC Operations - TF NBC Ops [01]

Common Core - CC**000 ...Intro to Common Core - 0**

000 ... Intro to Common Core - Intro to CC [01]

001 ...Intro to AirLand Battle - 1

001 ... Introduction to AirLand Battle - AirLand Btl [01]

002 ...Defens Fundamentals - 2

001 ... Defense Fundamentals - Dfns Fndmntls [01]

003 ...Offense Fundamentals - 3

001 ... Offense Fundamentals - Off Fndmntls [01]

004 ...BOS - Part I - 4A

001 ... BOS - Part I - BOS - I [01]

005 ...BOS- Part II - 4B

001 ... BOS - Part II - BOS - II [01]

006 ...Terms & Graphics - 5

001 ... Terms & Graphics - Terms&Grphcs [01]

007 ...Military Briefings - 6

001 ... Military Briefings - Mil Brfngs [01]

008 ...Battle Staff Integration - 7

001 ... Battle Staff Integration - Btl Stf Intg [01]

Engineer Officer - Eng**000 ...Introduction - 0**

001 ... Introduction - Intro [01]

001 ...Employment - 1

001 ... Employment - Employment [01]

002 ...Planning & Coordination - 2

001 ... Planning & Coordination - Plan & Coord [01]

003 ...Combat Operations - 3

001 ... Combat Operations - Combat Ops [01]

Fire Support Officer - FSO**000 ...Introduction - 0**

001 ... Introduction - Intro [01]

001 ...Planning & Coordination - 1

Course Name**Order ... Subject Name****Order ... Lesson Name[Version]**

001 ... Planning & Coordination - Pln&Coord [01]

002 ...Fire Support Targeting - 2

001 ... Fire Support Targeting - Targeting [01]

003 ...Fire Support Assets - 3

001 ... Fire Support Assets - Assets [01]

S1 - S1**000 ...Introduction - 0**

001 ... Introduction - 1 [01]

001 ...Organization & Planning - 1

001 ... Organization & Planning - Org & Plnng [01]

002 ...Strength Management Functions - 2

001 ... Strength Management Functions - Strgth Mng. [01]

003 ...Replacement Operations - 3

001 ... Replacement Operations - Rplcmnt Ops [01]

004 ...Medical Operations - 4

001 ... Medical Operations - Med Ops [01]

005 ...EPW/Civilian Internees - 5

001 ... EPW/Civilian Internees - 1 [01]

006 ...Other Personnel - 6

001 ... Other Personnel - 1 [01]

007 ...Morale, Welfare, & Recreational Support - 7

001 ... Morale, Welfare, & Recreational Support - MWR Sprr [01]

S2 - S2**000 ...S2 Introduction - 0**

001 ... Introduction to the S2 Course - Introduction [01]

001 ...IPB - 1

001 ... Intelligence Preparation of the Battlefield - IPB [01]

002 ...R&S Plan - 2

001 ... Reconnaissance and Surveillance Plan - R&S Plan [01]

003 ...Collection Plan - 3

001 ... Collection Plan - Colctn Plan [01]

004 ...OPSEC - 4

001 ... Operations Security - OPSEC [01]

005 ...Intell. Estimate - 5

001 ... Intelligence Estimate - Intell Est [01]

Course Name**Order ... Subject Name****Order ... Lesson Name[Version]**

006 ...S2 Operations - 6

001 ... S2 Operations - S2 Ops [01]

007 ...BN HQ Coord. - 7

001 ... Battalion Headquarters Coordination - BN HQ Coord [01]

S3 Air - S3Air**000 ...Introduction - 0**

001 ... Introduction - Intro [01]

001 ...Air Systems - 1

001 ... Air Systems - Air Systems [01]

002 ...Air Operations - 2

001 ... Air Operations - Operations [01]

S3 - S3**000 ...Introduction to the S3 Course - 0**

001 ... Introduction to the S3 Course - Intro [01]

001 ...Synchronization - 1

001 ... Synchronization - Syncnztn [01]

002 ...BN TF Combat Support - 2

001 ... BN TF Combat Support - TF Cmbt Sprt [01]

003 ...METT-T Analysis - 3

001 ... METT-T Analysis - METT_T Anlys [01]

004 ...Courses of Action - 4

001 ... Courses of Action - COAs [01]

005 ...Orders Process - 5

001 ... Orders Process - Order Procs [01]

006 ...Supervise Execution - 6

001 ... Supervise Execution - Sprvs Exec [01]

S4 - S4**000 ...Introduction to the S4 Course - 0**

001 ... Introduction to the S4 Course - S4 Intro [01]

001 ...TF Resupply Operations - 1

001 ... TF Resupply Operations - TF Resupply [01]

002 ...Organization for Tactical Sustainment - 2

001 ... Organization for Tactical Sustainment - Org Tcl Sstn [01]

003 ...Tactical Sustainment Operations - 3

Course Name**Order ... Subject Name****Order ... Lesson Name[Version]**

001 ... Tactical Sustainment Operations - Sustnmt Ops [01]

004 ...Tactical Sustainment Planning - 4

001 ... Tactical Sustainment Planning - Planning [01]

Signal Officer - SIGO**000 ...Course Intro - 0**

001 ... Introduction to Signal Officer's Course - Intro [01]

001 ...Signal Support - 1

001 ... Signal Support - Signal Sprt [01]

002 ...Signal Equipment - 2

001 ... Signal Equipment - Sgnl Equip [01]

History by Student Name

18-Feb-95

Student Name Id #

Course, Subject, Lesson[Version]	Date	Done?	Grade	Hours	Bookmark	Approved?
ONETOZERO, TEST . # 1234567						
Signal Officer - SIGO						
001 .. Signal Support - 1						
001 .. Signal Support - Signal Sprt[01]	2/18/95	No		0.06	0	No
ZITTRAUER, JUDY . # 25859093						
Common Core - CC						
000 .. Intro to Common Core - 0						
000 .. Intro to Common Core - Intro to CC[01]	2/16/95	Yes		0.02	900000000	No
Common Core - CC						
001 .. Intro to AirLand Battle - 1						
001 .. Introduction to AirLand Battle - AirLand Btl[01]	2/16/95	No		0.22	110000110	No
Common Core - CC						
002 .. Defens Fundamentals - 2						
001 .. Defense Fundamentals - Dfns Fndmtls[01]	2/16/95	No		0.19	110000000	No

Answer Frequency by Exam

18-Feb-95

Course, Subject, Lesson, Version	Type and #	Question and Answer	A (s)	B (s)	C (s)	D (s)	E (s)	% OK
Common Core								
Defens Fundamentals-2#2								
Defense Fundamentals Dfns Fndmtls[1] #1								
	F # 1							
		001 A	1	0	0	0	0	100.00%
		002 B	1	0	0	0	0	0.00%
		003 A	1	0	0	0	0	100.00%
		004 B	1	0	0	0	0	0.00%
		005 A	1	0	0	0	0	100.00%
		006 B	0	1	0	0	0	100.00%
		007 B	1	0	0	0	0	0.00%
		008 A	1	0	0	0	0	100.00%
		009 A	1	0	0	0	0	100.00%
		010 A	1	0	0	0	0	100.00%
		011 D	0	1	0	0	0	0.00%
		012 C	1	0	0	0	0	0.00%
		013 B	1	0	0	0	0	0.00%
		014 B	1	0	0	0	0	0.00%
		015 C	1	0	0	0	0	0.00%
		016 B	1	0	0	0	0	0.00%
		017 B	1	0	0	0	0	0.00%
		018 B	1	0	0	0	0	0.00%
		019 A	0	0	0	0	0	0.00%
		020 C	0	1	0	0	0	0.00%
	P # 1							
		001 A	1	0	0	0	0	100.00%
		002 B	1	0	0	0	0	0.00%
		003 A	0	1	0	0	0	0.00%
		004 B	1	0	0	0	0	0.00%
		005 A	1	0	0	0	0	100.00%
		006 B	1	0	0	0	0	0.00%
		007 B	1	0	0	0	0	0.00%
		008 A	1	0	0	0	0	100.00%
		009 A	1	0	0	0	0	100.00%
		010 A	1	0	0	0	0	100.00%
		011 D	1	0	0	0	0	0.00%
		012 C	0	1	0	0	0	0.00%
		013 B	0	1	0	0	0	100.00%
		014 B	1	0	0	0	0	0.00%

Course, Subject, Lesson, Version	Type and #	Question and Answer	A (s)	B (s)	C (s)	D (s)	E (s)	% OK
		015 C	1	0	0	0	0	0.00%
		016 B	1	0	0	0	0	0.00%
		017 B	1	0	0	0	0	0.00%
		018 B	1	0	0	0	0	0.00%
		019 A	1	0	0	0	0	100.00%
		020 C	1	0	0	0	0	0.00%

Course, Subject, Lesson, Version	Type and #	Question and Answer	A (s)	B (s)	C (s)	D (s)	E (s)	% OK
----------------------------------	------------	---------------------	-------	-------	-------	-------	-------	------

Common Core

Intro to AirLand Battle-1#1

Introduction to AirLand Battle AirLand Btl[1] #1

E # 1

001	B	1	0	0	0	0	0.00%
002	A	1	0	0	0	0	100.00%
003	A	1	0	0	0	0	100.00%
004	A	0	1	0	0	0	0.00%
005	B	1	0	0	0	0	0.00%
006	A	1	0	0	0	0	100.00%
007	A	1	0	0	0	0	100.00%
008	B	0	1	0	0	0	100.00%
009	B	1	0	0	0	0	0.00%
010	A	1	0	0	0	0	100.00%
011	B	1	0	0	0	0	0.00%
012	B	1	0	0	0	0	0.00%
013	B	1	0	0	0	0	0.00%
014	A	1	0	0	0	0	100.00%
015	D	1	0	0	0	0	0.00%
016	D	0	1	0	0	0	0.00%
017	E	0	0	1	0	0	0.00%
018	C	1	0	0	0	0	0.00%
019	A	0	0	0	1	0	0.00%
020	B	0	0	0	0	1	0.00%

F # 1

001	A	1	0	0	0	0	100.00%
002	B	0	1	0	0	0	100.00%
003	B	1	0	0	0	0	0.00%
004	A	1	0	0	0	0	100.00%
005	A	1	0	0	0	0	100.00%
006	A	1	0	0	0	0	100.00%
007	B	0	1	0	0	0	100.00%
008	B	1	0	0	0	0	0.00%
009	B	1	0	0	0	0	0.00%
010	A	1	0	0	0	0	100.00%
011	B	0	0	0	1	0	0.00%
012	D	1	0	0	0	0	0.00%
013	B	0	1	0	0	0	100.00%
014	B	1	0	0	0	0	0.00%
015	D	0	1	0	0	0	0.00%
016	D	1	0	0	0	0	0.00%
017	C	1	0	0	0	0	0.00%

Course, Subject, Lesson, Version	Type and #	Question and Answer	A (s)	B (s)	C (s)	D (s)	E (s)	% OK
		018 B	1	0	0	0	0	0.00%
		019 C	1	0	0	0	0	0.00%
		020 D	1	0	0	0	0	0.00%
		021 B	1	0	0	0	0	0.00%
		022 A	1	0	0	0	0	100.00%
		023 D	1	0	0	0	0	0.00%
		024 D	0	0	0	1	0	100.00%
		025 A	1	0	0	0	0	100.00%
		026 C	0	1	0	0	0	0.00%
		027 A	0	1	0	0	0	0.00%
		028 C	1	0	0	0	0	0.00%
		029 A	1	0	0	0	0	100.00%
		030 C	1	0	0	0	0	0.00%
	P # 1							
		001 A	1	0	0	0	0	100.00%
		002 B	0	1	0	0	0	100.00%
		003 B	1	0	0	0	0	0.00%
		004 A	1	0	0	0	0	100.00%
		005 A	1	0	0	0	0	100.00%
		006 A	1	0	0	0	0	100.00%
		007 B	0	1	0	0	0	100.00%
		008 B	1	0	0	0	0	0.00%
		009 B	1	0	0	0	0	0.00%
		010 A	1	0	0	0	0	100.00%
		011 B	0	0	0	1	0	0.00%
		012 D	0	1	0	0	0	0.00%
		013 B	0	1	0	0	0	100.00%
		014 B	1	0	0	0	0	0.00%
		015 D	1	0	0	0	0	0.00%
		016 D	0	1	0	0	0	0.00%
		017 C	0	1	0	0	0	0.00%
		018 B	1	0	0	0	0	0.00%
		019 C	0	1	0	0	0	0.00%
		020 D	0	1	0	0	0	0.00%
		021 B	1	0	0	0	0	0.00%
		022 A	1	0	0	0	0	100.00%
		023 D	0	1	0	0	0	0.00%
		024 D	0	0	0	1	0	100.00%
		025 A	0	1	0	0	0	0.00%
		026 C	0	1	0	0	0	0.00%
		027 A	1	0	0	0	0	100.00%
		028 C	0	1	0	0	0	0.00%
		029 A	0	0	1	0	0	0.00%

Course, Subject, Lesson, Version	Type and #	Question and Answer	A (s)	B (s)	C (s)	D (s)	E (s)	% OK
		030 C	1	0	0	0	0	0.00%
	Q # 1							
		001 A	1	0	0	0	0	100.00%
		002 B	1	0	0	0	0	0.00%
		003 A	1	0	0	0	0	100.00%
		004 A	0	1	0	0	0	0.00%
		005 B	1	0	0	0	0	0.00%
		006 B	0	1	0	0	0	100.00%

Name and CDs required

18-Feb-95

Name**CDLabel**

ONETOZERO, TEST .

SIGO CD

ZITTRAUER, JUDY .

Common Core CD

S4 CD

Opinion Criterion Summary by Course, Subject, Lesson, Version

18-Feb-95

Criterion	Description	Type	Average	Minimum	Maximum	Standard Deviation	Count
Signal Officer							
001 .. Signal Support							
001 .. Signal Support[001]							
1	I believe I had sufficient background knowledge to prepare me for this lesson.	R	4.00	4	4		1
2	The post-test was an accurate assessment of my knowledge on this subject.	R	5.00	5	5		1
3	The quizzes and exams often tested irrelevant or unimportant information.	R	2.00	2	2		1
4	The CBI portion enhanced my understanding of the paper-based lesson material (student guide, FMs, etc.)	R	5.00	5	5		1
5	The computer setup and administrative procedures were too much trouble.	R	5.00	5	5		1
6	In the future, I would prefer to take required instruction using CBI instead of conventional correspondence lessons.	R	5.00	5	5		1
7	I prefer regular classroom instruction to this method.	R	1.00	1	1		1
8	The paper-based and CBI portion of this lesson often seemed disjointed and unrelated to each other.	R	2.00	2	2		1
9	This lesson thoroughly covered the training objectives as stated in the student guide.	R	5.00	5	5		1
10	After completing this lesson, I believe I met or exceeded the learning objectives as stated in the student guide.	R	4.00	4	4		1
11	I now have a much better understanding of the skills and knowledge required to perform my military job.	R	5.00	5	5		1
12	The computer-based instruction was challenging and held my interest.	R	5.00	5	5		1
13	This lesson was well organized (key concepts were related and progressed in a logical sequence).	R	4.00	4	4		1
14	There was too much material to try and learn in this lesson.	R	4.00	4	4		1
15	There was too much repetition/redundancy in this lesson.	R	2.00	2	2		1

Criterion	Description	Type	Average	Minimum	Maximum	Standard Deviation	Count
16	The student guide was easy to use (instructions were easy to understand).	R	5.00	5	5		1
17	This lesson should have more examples of real life application.	R	5.00	5	5		1
18	The vocabulary and educational level of this lesson were too elementary.	R	2.00	2	2		1
19	The computer-based "exercises" were very helpful in learning the material.	R	5.00	5	5		1
20	I would recommend extensive modification to this lesson before giving it to other students.	R	1.00	1	1		1
21	I believe this is an effective teaching method for the National Guard.	R	5.00	5	5		1
22	I feel more confident in my ability to perform combat related staff functions after completing this training.	R	5.00	5	5		1

Opinion Criterion Summary

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20	I would recommend extensive modification to this lesson before giving it to other students.	R	1.00	1	1		1
21	I believe this is an effective teaching method for the National Guard.	R	5.00	5	5		1
22	I feel more confident in my ability to perform combat related staff functions after completing this training.	R	5.00	5	5		1

Appendix D

BETA Test Results

BATTLE STAFF TRAINING SYSTEM

COMMON CORE BETA TESTING SUMMARY AND

ACTIONS REQUIRED

3 November 1994

I. Demographic Data: Student officers are ARNG officers serving as Bradley platoon leaders in the ARNG. Officers completed IOBC one week prior to start of testing. Average age was 24, education level was college graduate with one graduate student. Average time on active duty (except for training) was 0 with average reserve duty time 3.25 years. None of the officers had experience at the NTC. General comments from all officers were negative to traditional correspondence courses and, to a lesser extent, resident training. Comments to the quality of Army publications was, overall, negative.

II. Post Course Survey Results:

Of the 15 questions on the post course survey, 93% were positive (+) on the course of instruction with 7% neutral (0); there were no negative comments. (For positively based questions a + was indicated by a 5 or 4; for negatively phrased questions a + was indicated by marking a 1 or 2; 3 was the neutral range).

Overall Comments:

Course was a good supplement to the FMs
Very good and challenging

Suggestions:

More real world examples and (CBI) exercises
More computer instruction.

Subject 1 - Intro to ALB

TIME: $4.75 + 2 = 6.75/2 = 3.37$

PRETEST: $60\% + 60\% = 120\%/2 = 60\%$

FINAL: $50+83+83=216/3=72$

LESSON EXAM: $70+83=153/2=76.5$

FIXES: NONE

COMMENTS: EXCELLENT QUIZ
TOO VERBOSE?
ALL INFORMATION THERE I NEEDED

Subject 2 - DEFENSE FUNDAMENTALS

TIME: $4.5+5=9.5/2 = 4.75$

PRETEST: 45%

FINAL: $80+60+90=230/3=76.6$

LESSON EXAM 2A: $80+72=152/2=76$

LESSON EXAM 2B: $80 + 50=130/2=65\%$

FIXES: NONE

COMMENTS: I UNDERSTOOD THIS SECTION
VERY LIMITED CBI - GOOD OUTLINE OF MATERIAL
I RELATE BETTER TO THE COMPUTER THAN THE BOOK
GOOD EXPLANATION OF DEFENSE FUNDAMENTALS...
GOOD QUIZZES AND TESTS

Subject 3 - OFFENSE FUNDAMENTALS:

TIME: $1.5 + 3 = 4.5/2 = 2.25$

PRETEST: $60+53=113/2=56.5$

FINAL: $93+60+93=246/3=82$

LESSON EXAM 3A: $95+36=131/2=65.5$

LESSON EXAM 3B: $63+53=118/2=59$

FIXES: - 3A TEXT MENTIONS QUIZ: NOT PRESENT
3B TEXT MENTIONS QUIZ: NOT PRESENT

COMMENTS: COMPUTER HELPED PUT THINGS TOGETHER FOR ME
LESSONS ARE GETTING MORE INTERESTING
HISTORICAL QUOTES AND REFERENCES...ADDED VALUE
GOOD SEQUENTIAL ORDER, PROGRESS UNDERSTANDABLE

Subject 4A- BOS PART I

TIME: $6.75 + 6 = 12.75/2 = 6.38$

PRETEST: $62+60=122/2=61$

FINAL: $53+87+70+90=300/4=75$

LESSON EXAM 4A: $48+96+60=204/3=68$

LESSON EXAM 4B: $80+80=160/2=80$

LESSON EXAM 4C: $73+38=111/2=55.5$

LESSON EXAM 4D: $65+45=110/2=55$

FIXES: 4A (Intell) TOO MUCH INFORMATION
NEEDS A REVIEW
NOTE: THEY ALREADY TOOK S2

COMMENTS: NEED FOR MORE CBI
TESTS/QUIZZES GIVE ACCURATE ASSESSMENT
INFO PRECISE, NAVAL GUNFIRE MAY BE TOO IN DEPTH
UNDERSTOOD A LOT MORE THIS SECTION
(ADA) NEW CONCEPTS I AM NOT FAMILIAR WITH

Subject 4B- BOS PART II

TIME: $6.5+7.45=13.95/2=6.9$

PRETEST: $62+87+68=217/3=72.3$

FINAL: $53+87+80=220/3=73.3$

LESSON EXAM 4E: $95+70=165/2=82.5$

LESSON EXAM 4F1: $60+75=135/2=67.5$

LESSON EXAM 4F2: $60+96=156/2=78$

LESSON EXAM 4G: $84+75=159/2=79.5$

FIXES: 4G, Too long? Break into 2 pieces?
The hardest section

COMMENTS: MORE THAN ADEQUATE TO COVER MATERIAL
(CSS) MAKES MORE SENSE IF READ TWICE
(TESTS) ADEQUATE OVERVIEW OF MATERIAL
A LITTLE TROUBLE, BUT I DID WELL OVERALL
(C2) WITHOUT A DOUBT THE HARDEST SECTION

Subject 5 - TERMS AND GRAPHICS

TIME: $3.5+3=6.5/2=3.25$

PRETEST: $66+70=136/2=68$

FINAL: $90+80=170/2=85$

LESSON EXAM 5A: $87+83=170/2=85$

LESSON EXAM 5B: $72+77=149/2=74.5$

FIXES: NONE

COMMENTS: OUTSTANDING PE
EXCELLENT FORMAT FOR QUIZZES
(CBI) GOOD EXAMPLES
SOME REFRESHER, SOME NEW

Subject 6 - MILITARY BRIEFINGS

TIME: $3.5+2.25=5.75/2=2.87$

PRETEST: $64+85=149/2=74.5$

FINAL: $80+85=165/2=82.5$

LESSON EXAM 6A: $93+93=186/2=93$

LESSON EXAM 6B: $73+80=153/2=76.5$

FIXES: NONE

COMMENTS: (CBI) WAS THE BEST BECAUSE IT WAS LAST
I KNEW SOME OF IT, SOME WAS NEW
WAS WELL LAID OUT...GOOD SEQUENTIAL ORDER
EXCELLENT EXPLANATION OF BRIEFING TYPES
(TESTS/QUIZZES) LONG ENOUGH TO GIVE GOOD
INDICATION

Subject 7 - STAFF INTEGRATION

TIME: $1.25+1.5=2.75/2=1.38$

PRETEST: $70+86=156/2=78$

FINAL: ?

LESSON EXAM 7A: $92+68=160/2=80$

FIXES: None

COMMENTS: (CBI) EXCELLENT SOURCE OF LEARNING
INFO WELL PRESENTED, PROGRESSED LOGICALLY...

BATTLE STAFF TRAINING SYSTEM

S1 BETA TESTING SUMMARY AND

ACTIONS REQUIRED

19 Dec 94

I. Demographic Data: Student officers are ARNG and AC officers serving with the ARNG on active duty or preparing to attend IOAC. Officers have completed IOBC and served as platoon leaders, assistant staff officers at battalion and brigade with one currently serving as a signal officer. One officer has completed CAS3. All are college graduates. Average time on active duty was 10 years. One of the officers had two rotations to the NTC. General comments from all officers were neutral to negative to traditional correspondence courses and, to a lesser extent, resident training. Comments to the quality of Army publications was, overall, negative.

II. Post Course Survey Results:

Of the 12 questions on the post course survey, 67% were positive (+) on the course of instruction with 8% neutral (0); and 24% negative comments. (For positively based questions a + was indicated by a 5 or 4; for negatively phrased questions a + was indicated by marking a 1 or 2; 3 was the neutral range).

Overall Comments:

Good condensed version of practical knowledge.
Most valuable component was (CBI) PEs and job aids.

Suggestions:

More CBI and PEs.

Time to complete: TEXT: 22.0
CBI: 7.5

TOTAL TIME: 29.5 HOURS

Subject 1 - S1 Organization and Planning

TIME: TEXT: 1A 4.0 1B 2.0
CBI: 1A .5 1B 1.75

PRETEST: 60%

FINAL: 89%

LESSON EXAM 1A: 83%
LESSON EXAM 1B: 91%

FIXES: ALL LESSON EXAMS: ERROR 22336; 70-80% FEEDBACK
STATEMENT; REPLACE MARGINAL/MARGINAL FILE NAME

LSN 1A: MORE TIME ON FEEDBACK PAUSE
LSN 1B: PE - FIX TF ORG DIAGRAM 7 VS 6 COS
PE2: SAYS IT IS PE 1B PT II
TEXT?? BDE OPORD ANNEX Q = ANNEX O
FINAL EXAM - CAS MGT, ? CT OR FT

COMMENTS: NONE

Subject 2 - STRENGTH MANAGEMENT

TIME: TEXT: 2A 1.0 2B .75 2C 2.25
CBI: 2A .25 2B .25 2C 1.75

PRETEST: 44%

FINAL: 94%

LESSON EXAM 2A: 90%
LESSON EXAM 2B: 100%
LESSON EXAM 2C: 90%

FIXES: EXAM MARGINAL = MARGINAL
PE PT I - Can't click on categories
Forcesthat - needs space
PE PT I - check answers Q3,4
PE PTII - check answers/spelling Q2,3
PE PT IV- check Q10, answer A

COMMENTS: None

Subject 3 - REPLACEMENT OPERATIONS

TIME: TEXT: 3A 2.0 3B 1.00 3C 1.00
CBI: 3A .25 3B .25 3C 1.50

PRETEST: 46%

FINAL: 93%

LESSON EXAM 3A: 100%
LESSON EXAM 3B: 86%
LESSON EXAM 3C: 89%

FIXES: TEXT - NO PE 3A
CBI QUIZ MISSING?
MARGINAL = MARGINAL
MENU - REPL ORIENTATION SUPPLY ? WORDING
3B TEST - COMPANY ORIENTATION ... CHECK ANSWER
CHECK QUIZ 3C1
CHECK QUIZ 3C2

COMMENTS: NONE

Subject 4- MEDICAL OPERATIONS

TIME: TEXT: 4A 1.5 4B 1.00 4C 1.25
CBI: 4A .25 4B .25 4C .25

PRETEST: 75%

FINAL: 97%

LESSON EXAM 4A: 88%
LESSON EXAM 4B: 90%
LESSON EXAM 4C: 80%

FIXES: 4A INTRO RED LETTERS ON BLUE HARD TO READ
4A TEST: Check Q1, med reg is..., last Q
4B CBI - Red on blue hard to read
Video
4C Casualty reports flash by too fast

COMMENTS: None

Subject 5 - EPW/CIVILIAN INTERNEES

TIME: TEXT: 5A .75
CBI: 5A .25

PRETEST: 40%

FINAL: 90%

LESSON EXAM 5A: 100%

FIXES: Check lesson exam #questions/computations

COMMENTS: None

Subject 6 - OTHER PERSONNEL SERVICE SUPPORT

TIME: TEXT: 6A 1.0 6B 1.00
CBI: 6A .25 6B .25

PRETEST: 27%

FINAL: 91%

LESSON EXAM 6A: 92%

LESSON EXAM 6B: 100%

FIXES: 6B TEXT, CHECK PG 3, PROMOTIONS...CPT.FOR.CLARITY
6B FINAL EXAM, POW QUESTION - FEEDBACK??

COMMENTS: None

Subject 7 - MORALE, WELFARE, AND RECREATION

TIME: TEXT: 7A .50 7B 1.00 7C .5 7D .50
CBI: 7A .25 7B .50 7C .25 7D .25

PRETEST: 62%

FINAL: 94%

LESSON EXAM 7A: 83%

LESSON EXAM 7B: 85%

LESSON EXAM 7C: 84%

LESSON EXAM 7D: 89%

FIXES: Check exams path, postal is in 7B, C, D

COMMENTS: None

BATTLE STAFF TRAINING SYSTEM
CHAPLAIN BETA TESTING SUMMARY AND
ACTIONS REQUIRED 23 Dec 94

I. Demographic Data: Student officer was a LTC USAR officer serving as a Division Staff Chaplain with the 70th Div (IT) on active duty at Ft Benning. Officer has completed OBC, OAC, and CGSC. Age was 46, education level was college graduate with masters in divinity. Time on active duty was 20 years with 2 years in a 500 bed hospital, 9 years as a battalion chaplain, 3 years as a brigade chaplain, and 6 years as the deputy and division chaplain. Officer did not have experience at the NTC. General comments from the officer was negative to traditional correspondence courses, negative to reserve component resident courses, and, positive to resident training. Officer uses a computer in his work and considers himself relatively at ease in using a computer. His preference for instruction is first, SGI, followed by CBI.

II. Post Course Survey Results:

Of the 12 questions on the post course survey, 75% were positive (+) on the course of instruction with 8% neutral (0); and 17% negative comments. (Note: the Chaplain's course has very limited CBI - introductions and tests only; no exercises). (For positively based questions a + was indicated by a 5 or 4; for negatively phrased questions a + was indicated by marking a 1 or 2; 3 was the neutral range).

Overall Comments:

Good, solid course for entry level chaplains. It contains all the necessary basics they'll need for field operations at the TOC.

Quizzes with immediate feedback to right and wrong answers was a goodtool.

Suggestions:

Integrate some additional text and/or (CBI) exercises into the program to enhance the readings in the text.

Subject 1 - RELIGIOUS SUPPORT ACTIVITIES

TIME: ?

PRETEST: 83%

FINAL: 92%

LESSON EXAM 1A: 90%

LESSON EXAM 1B: 95%

FIXES: 1A Pretest - feedback on missed questions -
error, variable missing, 22302.

1B Possible question around suicide, what do you
do with a soldier who in "confidence" tells
you about suicidal ideation??

Final Exam: Giving same answers on post test as
pretest I didn't get same questions as wrong.
NOTE: check all questions - pre and post
test.

Check question on murder of a civilian -
correct??

COMMENTS:

Subject 2 - STAFF FUNCTIONS

TIME:

PRETEST: 100%

FINAL: 92%

LESSON EXAM 2A: 100%

LESSON EXAM 2B: 100%

FIXES:

Final - check question on advising cdr on religious holidays, may be incorrect - Ramadan, in SW Asia.

Question about soldier killing a buddhist monk is in conflict with question about soldier committing murder in Lesson I.

COMMENTS: 2A Good test, very helpful. I liked the matching questions.

Subject 2, 2a, pg1: Para 2b: Pa(s)toral their

Discussion of CP, AMCP could use a diagram

Lesson 2A reads like a phone book - Lesson 1 has better movement and easier to read.

Lsn 2B, pg 6, top para; "immorality counseling" rephrase it?? Sounds like we're teaching now to be immoral.

Quotes early in text are course, could turn off young chaplain.

BATTLE STAFF TRAINING SYSTEM

S2 BETA TESTING SUMMARY AND

ACTIONS REQUIRED 28 November 1994

I. Demographic Data: Student officers are ARNG officers serving as Bradley platoon leaders in the ARNG. Officers completed IOBC one week prior to start of testing. Average age was 24, education level was college graduate with one graduate student. Average time on active duty (except for training) was 0 with average reserve duty time 3.25 years. None of the officers had experience at the NTC. General comments from all officers were negative to traditional correspondence courses and, to a lesser extent, resident training. Comments to the quality of Army publications was, overall, negative.

II. Post Course Survey Results:

Of the 15 questions on the post course survey, 93% were positive (+) on the course of instruction with 7% neutral (0); there were no negative comments. (For positively based questions a + was indicated by a 5 or 4; for negatively phrased questions a + was indicated by marking a 1 or 2; 3 was the neutral range).

Overall Comments:

Course was a good supplement to the FMs
Very good and challenging

Suggestions:

More real world examples and (CBI) exercises
More computer instruction.

Subject 1 - IPB

TIME: $17+10.5=27.5/2=13.75$

PRETEST: $44+65=109/2=54.5$

FINAL: $68+92=160/2=80$

LESSON EXAM 1A: $78+92=170/2=85$

LESSON EXAM 1B: $80+72=152/2=76$

LESSON EXAM 1C: $40+55=95/2=47.5$

LESSON EXAM 1D: $80+46=126/2=63$

LESSON EXAM 1E: $61+92=153/2=76.5$

FIXES: Feedback on all questions
Threat Eval, question 4 (composition), and 14
(strength) conflict w/book?
Tutorial on DocTemp needs more on how to use,
gather...

COMMENTS: METT-T called M-TETT by USAIS
Good instruction
Longer quizzes/more quizzes (consistent)
Too much material
Good exercises
Need ability to print out maps, charts...
Held my interest well
More PEs (CBI)
Bigger table of contents
Computer is excellent learning tool
Need practical FM's like the student guide
Excellent visual displays

Subject 2 - R&S

TIME: $7+7.25=14.25/2=7.12$

PRETEST: $48+75=123/2=61.5$

FINAL: $88+84=172/2=86$

LESSON EXAM 2A: $62+85=147/2=73.5$

LESSON EXAM 2B: $37+75=112/2=56$

LESSON EXAM 2C: $42+71=113/2=55.5$

LESSON EXAM 2D: $88+62=150/2=75$

FIXES: 2C QUIZ gave incorrect feedback??

COMMENTS: Text used very well (multiple)
Didn't do well on PE
Reading was valuable
Best yet
Best instruction and easy to comprehend
(Tests..) Good basis of test material

Subject 3 - Collection Plan

TIME: $3+2=5/2=2.5$

PRETEST: $55+70=125/2=62.5$

FINAL: $70+90=160/2=80$

LESSON EXAM 3A: $14+86=100/2=50!$

LESSON EXAM 3B: $55+90=145/2=72.5$

FIXES: Emmii - ease of use/dependability
(multiple)

COMMENTS: I looks up what I missed and found info was
there
I read this and it stuck in my head
Tests - a lot better
Emmii - bugs need to be fixed

Subject 4 - OPSEC

TIME: $3.5+4.5=8/2=4$

PRETEST: $42+66=108/2=54$

FINAL: $67+72=139/2=69.5$

LESSON EXAM 4A: $33+83=116/2=58$

LESSON EXAM 4B: $67+70=137/2=68.5$

FIXES: 4A Threat: 1st exam, ans A, computer said NO - A

COMMENTS: Should have bigger quizzes and more PEs (CBI)
Excellent
Short and concise, a lot of material

Subject 5 - INTELLIGENCE ESTIMATE

TIME: $2.25+2=4.25/2=2.12$

PRETEST: $67+67=134/2=67$

FINAL: $94+88=182/2=91$

LESSON EXAM 5A: $40+67=107/2=53.5$

LESSON EXAM 5B: $23+100=123/2=61.5$

FIXES: None

COMMENTS: Reading was valuable
(CBI) Still best source of learning
Very difficult quiz
(CBI) was more in-depth, good covering points
Good use of text with CBI

Subject 6 - S2 OPERATIONS

TIME: $5.75+2.75=8.5/2=4.25$

PRETEST: $22+27=49/2=24.5$

FINAL: $74+83=157/2=77.5$

LESSON EXAM 6A: $44+67=111/2=55.5$

LESSON EXAM 6B: $40+60=100/2=50$

FIXES: None

COMMENTS: I am getting the hang of grasping knowledge
(CBI) Computer is where I got all my knowledge
Did a good job - needs more PEs (CBI)
Quizzes helped me prepare for the final

Subject 7 - BN HQ COORDINATION

TIME: $1.5+2.5=4/2=2$

PRETEST: $70+70=140/2=70$

FINAL: $95+80=175/2=87.5$

LESSON EXAM 7A: $81+44=125/2=62.5$

LESSON EXAM 7B: $74+56=130/2=65$

FIXES: 7B Last question on quiz didn't include correct
answer

COMMENTS: Gave good, simple explanation
Mostly text based -n more CBI
Good reading and very valuable tests
Combination of all quizzes helped me prepare for
final

BATTLE STAFF TRAINING SYSTEM

S3 BETA TESTING SUMMARY AND

ACTIONS REQUIRED

29 November 1994 (Final)

I. Demographic Data: Student officers are AC officers that have completed or awaiting the advanced course. Officers completed IOBC, have served as platoon leaders, company executive officers and assistant battalion or brigade staff officers. Average age was 28.5, education level was college graduate. Average time on active duty 5.5 years with average reserve duty time 1.5 years. One officer had two rotations at the NTC. General comments from all officers were positive to the small group instruction (SGI) instructional methodology, negative to traditional correspondence courses and, to a lesser extent, resident training. Comments to the quality of Army publications was, overall, negative. Officers were, generally, computer literate with one officer highly knowledgeable.

II. Post Course Survey Results:

Of the 12 questions on the post course survey, 83% were positive (+) on the course of instruction with 8% neutral (0) and 8% negative (one student preferred the SGI method of instruction then CBI over all other forms. (For positively based questions a + was indicated by a 5 or 4; for negatively phrased questions a + was indicated by marking a 1 or 2; 3 was the neutral range).

Overall Comments:

FM 7-20 (CH 2 & 7) excellent references.
Reading material: sometimes too much.
PEs (CBI) an excellent tool. Should incorporate more PEs.
Matching were incorrect (fixed).
Excellent system to serve as an educational tool for the battalion battle staff.

Suggestions:

At USAIS: METT-T = M-TETT
OCOKA = OAKOC
Scheme of Maneuver = Maneuver
Scheme of Fire Support = fires
Next to last question - lesson exam 6b; blank screen shows no question but has 4 answers.

Subject 1 - Synchronization

TIME: 2 hours

Text: 1.25 CBI: .75

PRETEST: 60%

FINAL: 87%

LESSON EXAM: 84%

FIXES: Matching questions (done).

COMMENTS: System/program is an excellent tool.
I think SGI concept is best
This system is best after SGI.
It will provide a great educational tool for
soldiers.

Subject 2 - TF CSS

TIME: 5.5 hours

Text: 4.45 CBI: .75

PRETEST: 60%

FINAL: 90%

LESSON EXAM 2A: 70%

LESSON EXAM 2B: 95%

LESSON EXAM 2C: 93%

LESSON EXAM 2D: 95%

FIXES: Matching (fixed).
2D exam computed % correct **INCORRECTLY**.
Check pre-test; post-test and 2D lesson exam.

COMMENTS: A lot of information to learn.
Matching incorrect (fixed).
Material clear and concise.
Student guide provided concise information.
Computer based supported performance objectives.

Subject 3 - METT-T Analysis

TIME: 3.1 hours

Text: 1.9 hours CBI: 1.25 hours

PRETEST: 70%

FINAL: 90%

LESSON EXAM 3A: 88%

LESSON EXAM 3B: 70%

FIXES: - PEs 3B1 and 3B2 did not follow course map (fixed).

COMMENTS: CBI/program provided excellent examples for
subject matter ... clear and concise. PE 3B2
good exercise. Material was easy to
understand.

Subject 4- Courses of Action

TIME: 2.5 hours

Text: 1.75 CBI: .75

PRETEST: 75%

FINAL: 95%

LESSON EXAM 4A: 67%

LESSON EXAM 4B: 100%

FIXES: None

COMMENTS: Reading material for lesson was adequate.
Text was simple and easy to understand ...
Good PE ... opportunity to actually analyze
different COA.
(CBI) Graphic representation really helps out ...
a picture is worth a thousand words.

Subject 5 - Orders Process

TIME: 1.1 hours

Text: .95 CBI: .25

PRETEST: 85%

FINAL: 100%

LESSON EXAM 5A: 100%

FIXES: Matching all incorrect (fixed).

COMMENTS: (In OPORD) Current USAIS teaching refers to scheme of maneuver as maneuver and scheme of fire support as fires.

Subject 6 - Supervise execution

TIME: 2.25 hours

Text: 1.75 CBI: .5

PRETEST: 90%

FINAL: 100%

LESSON EXAM 6A: 87%

LESSON EXAM 6B: 93%

FIXES: 6B exam: Blank screen, no question; however, 4 responses: feeding location, maneuverability, survivability, and mobility.

One question had two of the same choices: Q: The minimum information display posted on the O&I map includes: ... personnel status is listed twice.

COMMENTS: Clear, simple and easy to understand.

BATTLE STAFF TRAINING SYSTEM

S3Air BETA TESTING SUMMARY AND

ACTIONS REQUIRED 30 Jan 95

I. Demographic Data: Student officers are AC officers awaiting assignment to the Infantry Officers Advanced Course (IOAC). The Infantry Officer has a BS having served as an S3 LNO, Rifle Platoon Leader, AT Platoon Leader in an Airborne Regiment and having completed IOBC, Airborne, Ranger, and Jumpmaster. Officer had one rotation at JRTC. The ADA Officer has a BA having served in an ADA brigade with no Battles Staff experience. Officer completed ADA OBC. Average age was 30, education level was college graduate. Average time on active duty (except for training) was 7 years with average reserve duty time 2 years. None of the officers had experience at the NTC. General comments from all officers were negative to traditional correspondence courses and, to a lesser extent, resident training. Comments to the quality of Army publications was, overall, negative.

II. Post Course Survey Results:

Of the 12 questions on the post course survey, 75% were positive (+) on the course of instruction with 8% neutral; there were 17% negative comments. (For positively based questions a + was indicated by a 5 or 4; for negatively phrased questions a + was indicated by marking a 1 or 2; 3 was the neutral range).

Overall Comments:

A lot of good information in a very condensed block of instruction.

Suggestions: Suggest this training be implemented in the National Guard and the Active Component.
The best implementation of the training is to present the training before the officer occupies a staff position.

Time to Complete:	TEXT:	51.0
	CBI:	1.75

TOTAL TIME: 52.75

Subject 1 - AIR SYSTEMS

TIME:	TEXT:	1A 14.0	1B 7.0
	CBI:	1A .25	1B .25

PRETEST: 60%

FINAL: 90%

LESSON EXAM 1A:	80%
LESSON EXAM 1B:	90%

FIXES: NONE

COMMENTS: The instruction provided in the BSTS material is excellent .

Subject 2 - AIR OPERATIONS

TIME:	TEXT:	2A 12.5	2B 10.5	2C 3.0	2D 4.0
	CBI:	2A .25	2B .5	2C .25	2D .25

PRETEST: 62%

FINAL: 93%

LESSON EXAM 2A:	70%
LESSON EXAM 2B:	80%
LESSON EXAM 2C:	80%
LESSON EXAM 2D:	80%

FIXES: 2B did not give thumbs up in main menu.
2B intro lengthy but overall pretty good.
2C Text: Ref to FM 1-100 no CH4 or APP F, G, H

COMMENTS: Did not have FM 100-42

BATTLE STAFF TRAINING SYSTEM

S4 BETA TESTING SUMMARY AND

ACTIONS REQUIRED 3 December 1994

I. Demographic Data: Student officers are AC officers that have completed or awaiting the advanced course. Officers completed IOBC, have served as platoon leaders, company executive officers and assistant battalion or brigade staff officers. Average age was 28.5, education level was college graduate. Average time on active duty 5.5 years with average reserve duty time 1.5 years. One officer had two rotations at the NTC. General comments from all officers were positive to the small group instruction (SGI) instructional methodology, negative to traditional correspondence courses and, to a lesser extent, resident training. Comments to the quality of Army publications was, overall, negative. Officers were, generally, computer literate with one officer highly knowledgeable. One officer served as a support platoon leader/assistant S4.

II. Post Course Survey Results:

Of the 12 objective questions on the post course survey, 75% were positive (+) on the course of instruction with 8% neutral (0); there were two negative comments that placed a preference on the SGI instructional methodology over the CBI/multimedia methodology. (For positively based questions a + was indicated by a 5 or 4; for negatively phrased questions a + was indicated by marking a 1 or 2; 3 was the neutral range).

Overall Comments:

Reading material was relatively easy and focused specifically on the performance objectives as specified in the student guide.

Overall, this was an excellent course to provide information and practical experience to a Task Force S4 (new or old). CBI and reference material provide sufficient information which will help a TF S4 understand his duties and responsibilities.

Practical exercises on lessons 3B-D were good exercises.

Total Time: Text: 10.5 hrs CBI 4.5 hrs Total: 15.1 hrs
Suggestions:

Error message displayed on exams 1A, 3C, 3D, and 4B
"error displaying file C:\bsts\S43\Text\exam.smt error
22336."

Lesson 1B and 2B in student guide; reference is FM 71-2,
CH 6 should be CH 7.

Subject 1 - Task Force Resupply Operations

TIME:

Text:	1A .75	1B 1.0
CBI:	1A .75	1B .25

PRETEST: 90%

FINAL: 100%

LESSON EXAM 1A: 100%

LESSON EXAM 1B: 100%

FIXES: Student guide ref FM 71-2, CH 6; should be CH 7.
1B lesson exam received a score of 267%
Exam menu stated 3 questions - were in fact 8.

COMMENTS: Reading material easy to understand
Reading material focused on objectives.

Subject 2 - Organization for Tactical Sustainment

TIME:

TEXT:	2A - 1.0	2B - 1.0
CBI:	2A - .25	2B - .5

PRETEST: 64%

FINAL: 100%

LESSON EXAM 2A: 90%

LESSON EXAM 2B: 93%

FIXES: 2A Pretest, typo in Q: " The company trains ...
2B Student guide: Ref to FM 71-2, CH6 should be
CH 7

COMMENTS: Performance measures clear, student guide material
easy to follow which made understanding of the material more
simplified.

Subject 3 - Tactical Sustainment Operations

TIME:	TEXT	CBI
3A	1.0	.5
3B	1.0	.75
3C	1.25	.5
3D	1.0	.5

PRETEST: 65%

FINAL: 94%

LESSON EXAM 3A: 83%

LESSON EXAM 3B: 100%

LESSON EXAM 3C: 84%

LESSON EXAM 3D: 80%

FIXES: Add FM 101-10-1/2 as ref in stu guide, used in PEs
3C - Error message after lesson exam (see gen
comments)
3D - Error message after lesson exam (see gen
comments)

COMMENTS: Reading material (student guide) clear and easy to
understand.
Practical exercises were very helpful in
understanding the process in which the S4
goes through while forecasting for the Bn
Task Force.

Subject 4-

TIME:	TEXT	CBI
4A	1.1	.5
4B	.75	.15
4C	1.0	.4

PRETEST: 71%

FINAL: 100%

LESSON EXAM 4A: 91%

LESSON EXAM 4B: 100%

LESSON EXAM 4C: 80%

FIXES:

4B - Exam, error message after lesson exam

COMMENTS: Good exercises

BATTLE STAFF TRAINING SYSTEM

FSO BETA TESTING SUMMARY AND

ACTIONS REQUIRED

2 February 1995

I. Demographic Data: Student officers are AC officers awaiting assignment to the Infantry Officers Advanced Course (IOAC). The Infantry Officer has a BS having served as an S3 LNO, Rifle Platoon Leader, AT Platoon Leader in an Airborne Regiment and having completed IOBC, Airborne, Ranger, and Jumpmaster serving as Bradley platoon leaders in the ARNG. Officer had one rotation at JRTC. The ADA Officer has a BA having served in an ADA brigade with no Battles Staff experience. Officer completed ADA OBC. Average age was 30, education level was college graduate. Average time on active duty (except for training) was 7 years with average reserve duty time 2 years. None of the officers had experience at the NTC. General comments from all officers were negative to traditional correspondence courses and, to a lesser extent, resident training. Comments to the quality of Army publications was, overall, negative.

I. Post Course Survey Results:

Of the 12 questions on the post course survey, 92% were positive (+) on the course of instruction with 8% neutral (0); there were no negative comments. (For positively based questions a + was indicated by a 5 or 4; for negatively phrased questions a + was indicated by marking a 1 or 2; 3 was the neutral range).

Overall Comments:

Neat stuff

Suggestions:

Do more CBI and more courses (IOBC, CAS3)

Time to Complete:	TEXT:	56.90
	CBI:	6.05
	TOTAL TIME:	62.95

Subject 1 - Fire Support Planning and Coordination

TIME:	TEXT:1A	6.2	1B	8.4	1C	12.0	1D	8.3
	CBI:1A	.25	1B	1.6	1C	.75	1D	.75

PRETEST: 56.5%

FINAL: 91%

LESSON EXAM 1A:	80%
LESSON EXAM 1B:	81%
LESSON EXAM 1C:	88%
LESSON EXAM 1D:	80%

FIXES: Check matching in 1B
Check NEXT buttons in 1B
Check grids in PE 1B
Check positioning of feedback screens over answer in
1D

COMMENTS: none

Subject 2 - Targeting

TIME:	TEXT:	11.0
	CBI:	.6

PRETEST: 76%

FINAL: 84%

LESSON EXAM 2A:	88%
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FIXES: Check lesson exam feedback screen size and next
button

COMMENTS: none

Subject 3 - Fire Support Assets

TIME: TEXT: 11.0
CBI: 2.1

PRETEST: 94%

FINAL: 95%

LESSON EXAM 3A: 91%

FIXES: Check video for operation

COMMENTS: none

BATTLE STAFF TRAINING SYSTEM
ADAO BETA TESTING SUMMARY AND

ACTIONS REQUIRED 9 Jan 95

I. Demographic Data: Student officers are AC officers awaiting assignment to the Infantry Officers Advanced Course (IOAC). The Infantry Officer has a BS having served as an S3 LNO, Rifle Platoon Leader, AT Platoon Leader in an Airborne Regiment and having completed IOBC, Airborne, Ranger, and Jumpmaster. Officer had one rotation at JRTC. The ADA Officer has a BA having served in an ADA brigade with no Battles Staff experience. Officer completed ADA OBC. Average age was 30, education level was college graduate. Average time on active duty (except for training) was 7 years with average reserve duty time 2 years. None of the officers had experience at the NTC. General comments from all officers were negative to traditional correspondence courses and, to a lesser extent, resident training. Comments to the quality of Army publications was, overall, negative.

II. Post Course Survey Results:

Of the 12 questions on the post course survey, 83% were positive (+) on the course of instruction with 0% neutral (0); there were 17% negative comments. (For positively based questions a + was indicated by a 5 or 4; for negatively phrased questions a + was indicated by marking a 1 or 2; 3 was the neutral range).

Overall Comments:

Very professional course; knowledge contained is very up to date.

Most valuable component is the student guide; job aids outstanding.

Suggestions: Suggest this training be implemented in the National Guard and the Active Component.
The best implementation of the training is to present the training before the officer occupies a staff position.

Time to Complete:	TEXT:	17.2
	CBI:	1.75

TOTAL TIME: 18.95

Subject 1 - AIR DEFENSE PLANNING

TIME:	TEXT:	1A 4.25	1B 3.45	1C 2.5	1D 2.0
	CBI:	1A .25	1B .25	1C .5	1D .25

PRETEST: 75%

FINAL: 88%

LESSON EXAM 1A:	95%
LESSON EXAM 1B:	85%
LESSON EXAM 1C:	88%
LESSON EXAM 1D:	83%

FIXES: CBI Gave credit to staff integration when AD employment was completed.

COMMENTS: The tactical decision making and staff integration sections are critical to the new ADAO. The instruction provided in the BSTS material is excellent:

Subject 2 - AIR OPERATIONS

TIME:	TEXT:	2A 3.0	2B 2.0
	CBI:	2A .25	2B .25

PRETEST: 76%

FINAL: 90%

LESSON EXAM 2A: 93%

LESSON EXAM 2B: 90%

FIXES: None, is in accordance with current ADA doctrine.

COMMENTS: You can reference the Visual Aircraft Recognition (VACR) on CD-ROM that the Army currently issues.

BATTLE STAFF TRAINING SYSTEM
CHEMO BETA TESTING SUMMARY AND

ACTIONS REQUIRED 25 Jan 95

I. Demographic Data: Student officers are AC officers awaiting assignment to the Infantry Officers Advanced Course (IOAC). The Infantry Officer has a BS having served as an S3 LNO, Rifle Platoon Leader, AT Platoon Leader in an Airborne Regiment and having completed IOBC, Airborne, Ranger, and Jumpmaster. Officer had one rotation at JRTC. The ADA Officer has a BA having served in an ADA brigade with no Battles Staff experience. Officer completed ADA OBC. Average age was 30, education level was college graduate. Average time on active duty (except for training) was 7 years with average reserve duty time 2 years. None of the officers had experience at the NTC. General comments from all officers were negative to traditional correspondence courses and, to a lesser extent, resident training. Comments to the quality of Army publications was, overall, negative.

II. Post Course Survey Results:

Of the 13 questions on the post course survey, 62% were positive (+) on the course of instruction with 8% neutral; and 30% negative comments. (For positively based questions a + was indicated by a 5 or 4; for negatively phrased questions a + was indicated by marking a 1 or 2; 3 was the neutral range).

Overall Comments:

Use of CBI is admittance of failure of the Army's Officer training program.

Suggestions:

Do not repeat information between text and FMs.
Ensure test questions test the required readings.
Have different questions on re-tests.

Time to Complete:	TEXT:	43.75
	CBI:	2.25

TOTAL TIME: 46.0

Subject 1 - ORGANIZATION AND DUTIES

TIME:	TEXT:	1A 15	1B	9.5
	CBI:	1A .5	1B	.5

PRETEST: 41.5%

FINAL: 92%

LESSON EXAM 1A:	75.5%
LESSON EXAM 1B:	85.0%

FIXES: Spelling error in 1B, TCS, should be biological

COMMENTS: I believe doctrine has changed to a NO NBC use.
Delete reading in FM 71-123 CH 3, 4, 7.

Subject 2 - TF NBC OPERATIONS

TIME:	TEXT:	2A 2.5	2B	3.0	2C	3.5	2D	10.25
	CBI:	2A .5	2B	.25	2C	.25	2D	.25

PRETEST: 43%

FINAL: 91%

LESSON EXAM 2A:	85%
LESSON EXAM 2B:	75%
LESSON EXAM 2C:	85%
LESSON EXAM 2D:	97%

FIXES: TEXT: 2B, PG 4 LINE 29, M265 SHOULD BE M256
CBI: 2B, THUMBS UP ON LESSON MENU NOT SUBJECT
MENU
2B, 4 OF 10 QUESTIONS ON TABLES
CBI: 2D, GOT THUMBS UP ON LESSON MENU BUT NOT
MAIN MENU
CBI: 2D, IN TEST THE WORK WINDS SHOULD BE SMOKE.

COMMENTS: Less text readings, more CBI and exercises.

BATTLE STAFF TRAINING SYSTEM
SIGO BETA TESTING SUMMARY AND

ACTIONS REQUIRED 5 Jan 95

I. Demographic Data: Student officers are AC officers awaiting assignment to the Infantry Officers Advanced Course (IOAC). The Infantry Officer has a BS having served as an S3 LNO, Rifle Platoon Leader, AT Platoon Leader in an Airborne Regiment and having completed IOBC, airborne, Ranger, and Jumpmaster. Officer had one rotation at JRTC. The ADA Officer has a BA having served in an ADA brigade with no Battles Staff experience. Officer completed ADA OBC. Average age was 30, education level was college graduate. Average time on active duty (except for training) was 7 years with average reserve duty time 2 years. None of the officers had experience at the NTC. General comments from all officers were negative to traditional correspondence courses and, to a lesser extent, resident training. Comments to the quality of Army publications was, overall, negative.

II. Post Course Survey Results:

Of the 13 questions on the post course survey, 68% were positive (+) on the course of instruction with 17% neutral (0); and 15% negative comments. (For positively based questions a + was indicated by a 5 or 4; for negatively phrased questions a + was indicated by marking a 1 or 2; 3 was the neutral range).

Overall Comments:

Course provides a good trainer/refresher on SINCGARS/MSE operations and capabilities of the equipment.
CBI was the best with the job aids a close second

Suggestions:

No changes necessary.

Time to Complete:	TEXT:	15.6
	CBI:	2.0

TOTAL TIME: 17.6

Subject 1 - SIGNAL SUPPORT

TIME:	TEXT:	1A 1.5	1B 3.6
	CBI:	1A .25	1B .5

PRETEST: 50%

FINAL: 86.5%

LESSON EXAM 1A: 80%

LESSON EXAM 1B: 85%

FIXES: NONE

COMMENTS: DOES NOT DISCUSS 5TH TENANT OF ALB - VERSATILITY
Could be made to be more complex subject.

Subject 2 - SINCGARS OPERATION

TIME:	TEXT:	2A 4.5	2B 6.25
	CBI:	2A .5	2B .75

PRETEST: 50%

FINAL: 92%

LESSON EXAM 2A: 80%

LESSON EXAM 2B: 90%

FIXES: None

COMMENTS: Reading and text identical, eliminate some
reading.